REPORT RESUMES

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CITIZENS' SURVEY OF SHIAWASSEE-CLINTON COUNTY,
VOCATIONAL-TECHNICAL FEASIBILITY STUDY.
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SHIAWASSEE-CLINTON AREA VOCAT.-TECH. STUDY COMM.
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THE NEEDS FOR VOCATIONAL-TECHNICAL EDUCATION IN THE SHIAWASSEE-CLINTON AREA OF MICHIGAN WERE DETERMINED FROM QUESTIONNAIRE RESPONSES FROM 1,146 SENIORS OF 1965, 416 GRADUATES OF 1960 AND 1962, 1,034 PARENTS OF FIFTH GRADERS, AND 250 BUSINESS FIRMS. EXISTING COURSE OFFERINGS WERE DETERMINED FROM COURSE TITLES IN AREA HIGH SCHOOLS. ANALYSIS OF DATA SHOWED THAT CURRENT VOCATIONAL OFFERINGS WERE INADEQUATE, THAT OCCUPATIONAL EDUCATION WAS NEEDED AT THE HIGH SCHOOL AND POST-HIGH SCHOOL LEVELS, AND THAT PROGRAMS WERE NEEDED FOR--(1) SERVICE OCCUPATIONS, (2) NURSING, (3) DRAFTING AND DESIGN, (4) BUSINESS ADMINISTRATION AND SALESMANSHIP, (5) SECRETARIAL-CLERICAL-OFFICE, (6) LABORATORY TECHNOLOGY, (7) COMMERCIAL ART, (8) COSMETOLOGY, (9) AUTOMOTIVE MECHANICS AND TECHNOLOGY, (10) AGRICULTURE, (11) ELECTRICAL AND ELECTRONIC TECHNOLOGY, (12) TRADE APPRENTICESHIP TRAINING, (13) LAW ENFORCEMENT, (14) PREPROFESSIONAL AND LIBERAL ARTS, (15) MECHANICAL TECHNOLOGY, (16) DATA PROCESSING, (17) MEDICAL TECHNOLOGY, (18) WELDING AND MACHINE SHOP, (19) GENERAL SELF-IMPROVEMENT AND JOB UPGRADING, AND (20) INDUSTRIAL TECHNOLOGY AND SUPERVISION. RECOMMENDATIONS CONCERNED ESTABLISHING A COMMUNITY COLLEGE--AREA VOCATIONAL TECHNICAL CENTER, AUTHORIZING A LOCAL LEVY TO FINANCE THE FACILITY, LOCATING THE FACILITY, AND ADMINISTERING THE FACILITY THROUGH AN ELECTED BOARD OF TRUSTEES. EIGHTY-FOUR TABLES OF DATA ARE INCLUDED. (MS)

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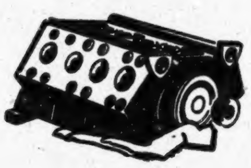

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Shiawassee County

Shiawassee - Clinton Area Vocational - Technical Education Study

June, 1966

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Bureau of School Services

The University of Michigan

CITIZENS' SURVEY OF SHIAWASSEE-CLINTON COUNTY VOCATIONAL-TECHNICAL FEASIBILITY STUDY

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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by the
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June, 1966

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FORWARD

In the interests of serving the occupational education needs of youth and adults in the Shiawassee-Clinton Area, consisting primarily of Shiawassee Intermediate School District, The Superintendent and his staff initiated a proposal for conducting an area Vocational-Technical Study. Funding for such a study as proposed was shared equally by monies administered through the State Department of Vocational Education and contributions made by various individuals and agencies in the area. The University of Michigan, Bureau of School Services, was invited to provide consultant services to the study conducted by citizens of the area.

The purpose of the study was to discover through an impartial, objective and scientific approach what the needs were for vocational-technical education. This report represents the combined efforts of both lay and professional groups, each of which have devoted many hours to its preparation. Members of the Citizens'Survey Committee deserve much credit for their tireless and conscientious efforts and work in pursuing this study to a successful conclusion.

The study provides a sound basis for future action by responsible authorities. The Intermediate School District officials deserve commendation for their leadership and vision in following a procedure in assessing needs which will surely result in better and more adequate educational services to more persons. No effort should be spared to develop facilities and programs which data of this study document are needed. Considerable investment of money and energy have already been made to this end, and whatever additional investment may be necessary will be the soundest one any American community can make.

Raymond J. Young
Survey Consultant

ACKNOWLEDGEMENTS

This report represents the cooperative effort of literally thousands of the residents of the Shiawassee-Clinton area. Each of the eleven hundred seniors of 1965, the four hundred graduates of 1960 and 1962, the one thousand parents of fifth graders, and the two hundred fifty firms responding to the questionnaires, demonstrate the interest of the area in educational problem-solving. Many individuals have worked diligently in the planning, compilation of the data, and reviewing initial drafts of the material presented.

Gratitude and acknowledgment are expressed to the Citizens' Study Committee members whose tireless work over the eleven-month study made this report possible. Tribute must be paid to the members of the Steering Committee, Chairman Alvin Bentley, and Vice-chairman William Cross, whose extraordinary efforts caused the study to move smoothly and swiftly. Appreciation is expressed to Mr. John R. Francis, Superintendent of the Shiawassee Intermediate School District, and Mr. George Kallos, Deputy Superintendent.

This finished report has been prepared and edited by Dr. Raymond Young, Professor of Higher Education and Community and Junior College Consultant, The University of Michigan, Ann Arbor, Michigan, who established the organization and plan for the study. In addition to consultive services, Dr. Young developed the questionnaire for seniors and graduates, suggested several instruments to be used in surveying the needs of business and industry. The questionnaire for parents of fifth graders was developed cooperatively by Dr. Young, Mr. Ernest Dear, and the Youth and Adult Subcommittee.

The Citizens' Sub-committee on History, Growth, and Development, gathered the information for Chapter I which was written by Mr. Dear, Field Coordinator. The Youth and Adult Sub-committee gathered the data presented in Chapters II and III which were processed and written by Garold Dyke, Consultant, Bureau of School Services, University of Michigan, and Chapter IV, prepared by Ernest Dear. Chapters V and VI were prepared in consultation with the Business and Industry Sub-committee, Mr. Dear as writer. Chapter VII was prepared by Dr. Raymond Young, while Chapter VIII was written by Mr. Dear in cooperation with Finance Sub-committee. Many hours of work were donated by Mr. George Kallos in reading, reviewing, and rewriting initial drafts of the first six chapters.

The yeoman performance of Miss Judy Kempf, secretary to the Citizens' Committee, deserves the gratitude of all who were connected with the study. Acknowledgement is expressed to Mr. Keith King who made arrangements for the many Steering Committee and Full Committee meetings. Appreciation is expressed to Mr. Ed. Chesney and the Data Processing Division of Midland-Ross Corporation which donated its services in processing survey responses.

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CHAPTER I

SHIAWASSEE-CLINTON AREA HISTORY, GROWTH AND DEVELOPMENT

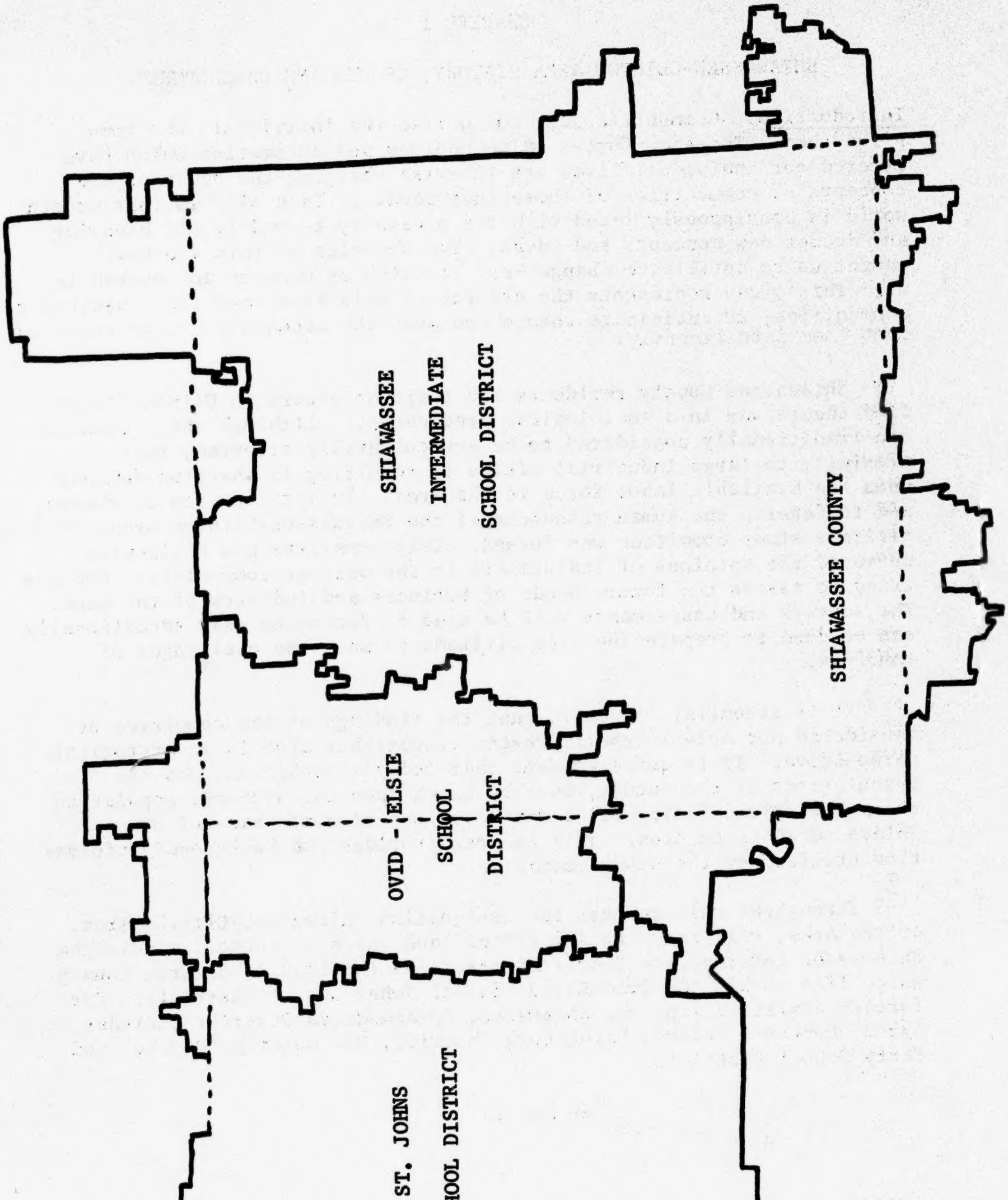
Introduction. Communities are not unlike the individuals who comprise them. The same forces of technology and automation which have altered our individual lives are likewise changing the behavior and concepts of communities of these individuals. Each ofus in this modern world is continuously faced with the necessity to modify old behavior and accept new concepts and ideas. The dynamics of this age have taught us to anticipate change lest it catch us unaware and overwhelm us. This study represents the efforts of this Area, and its constituent communities, to anticipate change and make the necessary preparations to meet them intelligently.

Shiawassee County residents and their neighbors in Clinton County find themselves in a sociological predicament. Although these counties are traditionally considered to be agriculturally oriented, their proximity to large industrial cities is resulting in changing demands upon the available labor force in the area. In anticipation of change, and to develop the human resources of the Shiawassee-Clinton Area, the Area citizens study committee was formed. This committee has diligently surveyed the opinions of individuals in the various communities, and has tried to assess the future needs of business and industry of the area. The surveys and assessments will be used to determine what educationally can be done to prepare the area citizens to meet the challenges of tomorrow.

It is essential, however, that the findings of the committee be considered not only in their present context but also in an historical perspective. It is quite evident that today's conditions and the speculations of the future, must be based upon the history, population characteristics, basic social services, and economic base of the Shiawassee-Clinton Area. This chapter provides the background information utilized by the study committee.

Throughout this report, the designation Shiawassee-Clinton Area, or the Area, will refer to all of the land which is located within the Shiawassee Intermediate School District and the land in Clinton County which lies within the Ovid-Elsie and St. Johns School Districts. For further clarification, the Shiawassee Intermediate District includes Byron, Corunna, Durand, Laingsburg, Morrice, New Lothrop, Owosso, and Perry School Districts.

(See Map I)


SHIAWASSEE
INTERMEDIATE
SCHOOL DISTRICT
SHIAWASSEE COUNTY
OVID - ELSIE
SCHOOL
DISTRICT
ST. JOHNS
SCHOOL DISTRICT

MAP I

Part I

HISTORY OF THE AREA

General Historical Background. Clinton County and Shiawassee County can trace their political evolvement back to a common beginning. When Michigan was no more than a portion of the Northwest Territory, both of these counties were a part of Wayne County. Subsequently, Clinton became a part of Oakland and Kalamazoo Counties, while Shiawassee was divided between Macomb and Oakland Counties. By 1836, both were reduced to their present limits and were designated as townships. Clinton was then DeWitt Township; however, Shiawassee had its present name.

Shiawassee County[1] was officially organized by a legislative act on March 18, 1837. At that time, Owosso Township comprised the Northern half of the county, Burns and Vernon Townships included their present areas, and Shiawassee Township included the present townships of Antrim, Bennington, Perry, Sciota, Shiawassee and Woodhull. By 1838, all 16 townships were formed. The original sight chosen for the county seat was the present community of Byron. On October 7, 1839, the Board of Supervisors voted a 300 foot square block of land in Corunna as the county seat.

Among the first white men to enter this land of the Chippewa were the traders; the Frenchman, Henry Bolieu; and the Germans, Whitmore and John Knaggs. Area history indicates the presence of the traders as early as 1816. A. L. and B. O. Williams, the founders of Owosso, settled in this county in 1831. Others who left their mark on the history of the area were Andrew Mark, who named Corunna, and Dr. Peter Laing, who founded Laingsburg.

Railroads in the latter half of the 19th Century led to the establishment of several communities. The establishment of Bancroft may be credited to the Chicago and Lake Huron Railroad, now the Grand Trunk. This same railroad played a very important part in the founding of the two communities of Morrice and Perry as well as the development and growth of Durand.

Shiawassee County's greatest natural resource is the lake bed soil. It is this soil which has sustained the agricultural production for more than a century. Today, however, the number of persons directly involved in farming is decreasing as the farms are increasing in size for more efficient operation. Most people who are no longer engaged in farming have now become a part of the industrial work force in Lansing and Flint and in the factories which have developed within the area.

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[1] This information was taken from an article written by Mrs. Wynne Vanderkarr of the Shiawassee County Historical Society.

Clinton County was officially organized by the Michigan Legislature on March 12, 1839. "The greater part of the pioneer settlers in Clinton County were farmers from the State of New York. It is not surprising, therefore, that agriculture, particularly wheat farming, formed the basis of the County's early economy, a situation which holds true even today. Lumbering was also a major employer as saw mills sprang up at various locations throughout the County. Many of these early settlements evolved as present cities and villages.... The first settlement in the County was made at the place known as Maple Rapids by George Campau in 1826."[2]

St. Johns was named in honor of John Swegles, its first settler. The village was officially platted on March 25, 1856, and became a city in 1905. In 1857 the county seat was moved from DeWitt to St. Johns as a result of an election. The vote tally indicated 233 in favor and 3 against the move.

Elsie was platted as a village on June 18, 1857, and was incorporated in 1885. Its early population consisted of former residents of Craven's Mills and was named for the daughter of Franklin Tillotson, the settlement's first postmaster.

The village of Ovid was platted in 1858 by B. O. Williams. It became a rail station and by 1880 had become a major urban center of more than 1,500 population.

Although separated by a political boundary, the people and communities of both counties shared a common history, an agriculturally based heritage, and an emerging industrial development.

Part II

SHIAWASSEE-CLINTON AREA POPULATION CHARACTERISTICS

It is essential that we first analyze the population that this Study hopes to serve. The Study will consider (1) Trends in population growth, (2) Age composition of the area population, (3) Analysis by sex, (4) Marital status and (5) Other selected social and economic characteristics. In this section, the Shiawassee-Clinton Area data will be compared with similar data for the State of Michigan.

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[2] Information provided by the Tri-city Regional Planning Commission, Clippert Street, Lansing, Michigan.

Population Growth. An examination of the growth in population for the State of Michigan since 1890 indicates an increase in every decade; however, the rate of growth varies considerably. The percentage increases have ranged as high as 32.0 percent between 1920 and 1930 to a low of 8.5 percent between 1930 and 1940.

TABLE I

DECENNIAL POPULATIONS OF THE STATE OF MICHIGAN AND THE SHIAWASSEE-CLINTON AREA, 1900-1960[3]

Year	Michigan	Percent of Increase Over Previous Census	Shiawassee-Clinton Area	Percent of Increase Over Previous Census
1900	2,420,982	--	51,517	--
1910	2,810,173	16.1	49,164	-4.5
1920	3,668,412	30.5	52,175	6.1
1930	4,842,325	32.0	55,449	6.3
1940	5,256,106	8.5	58,358	5.2
1950	6,371,766	21.2	64,508	10.6
1960	7,823,194	22.8	74,425	15.3

The Shiawassee-Clinton Area has not experienced as erratic a pattern of growth as has the State. Between 1900 and 1910, the Area experienced a decrease in population of 4.5 percent. The rate of increase demonstrated stability between 1920 and 1940 when it varied by no more than 1.1 percent. A significant increase is noted between 1940 and 1950 and between 1950 and 1960. The rate of growth of the Shiawassee-Clinton Area compared closely with the rate of growth for the State of Michigan in the 1930 to 1940 decade. The 1950 to 1960 rate of growth tends to indicate a closer approximation of the State percentage of increase in the future.

Population data are included in Appendix A which allow the reader to examine the pattern of growth in greater detail. All of the political subdivisions listed are included in the Shiawassee-Clinton Area; however, each political subdivision may not be entirely within the school districts to be serviced by the findings of this study.

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[3] U.S. Bureau of the Census. U.S. Census of Population: 1960. General Population Characteristics, Michigan. Final Report PC (1) -24B. U.S. Government Printing Office, Washington, D.C., 1961. Table 13.

Age. Presented in Table II are comparative data on the age compositions of the population of the Shiawassee-Clinton Area and the State of Michigan. It is interesting to observe that in the three categories below the age of 25, the Area shows a slightly larger percentage than does the State. The same relationship exists in the category "65+ Years of Age."

TABLE II

AGE DISTRIBUTION OF THE POPULATION, 1960[4]

Age Classification by Years	Michigan		Shiawassee-Clinton Area	
	Number	Percent	Number	Percent
Under 5	969,147	12.4	9,320	12.5
5-14	1,622,649	20.7	16,411	22.1
15-24	1,011,261	12.9	10,017	13.5
25-34	1,012,650	12.9	9,103	12.3
35-44	1,064,373	13.6	9,138	12.3
45-54	859,496	11.0	7,443	10.0
55-64	645,434	8.3	5,646	7.6
65 and over	638,184	8.2	7,247	9.7
Total	7,823,194	--	74,[illegible]5	--

Of special significance to educational planning is that group of young people who comprise approximately one-half of the population of the State and the Shiawassee-Clinton Area. In 1960, 46 percent of the State population was under 25 years of age while 48.1 percent of the Area population was in this age category. Further analysis shows that 33.1 percent of the State population and 34.6 percent of that for the Area was under the age of 15. These young people are just beginning to enter the local labor force.

It may also be noted that the lowest age category, "Under five years of age," is one-half the time interval represented by most of the other categories. If this 12.5 percent of the Area population were expanded to a ten-year period, it might possibly comprise 25 percent of our present population (i.e. a category which included those 10 years and under in 1965 might represent one-fourth of the population).

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[4] Source: U.S. Bureau of the Census. U.S. Census of Population: 1960, Vol. 1, Characteristics of the Population. Part 24, Michigan, Tables 16, 26, and 27.

Readers interested in population statistics by political subdivision will find this information in Appendix B of this report. Appendixes C and D show the age composition for each political subdivision according to sex.

Sex. A comparison of the sex composition of the area and the State of Michigan population indicates that the Shiawassee-Clinton Area is proportionately a carbon copy of the Michigan population composition. In looking at Table III, one notes that despite the difference in the size of the two populations, each has 49.6 percent males and 50.4 percent females.

TABLE III

SEX COMPOSITION OF POPULATION, 1960[5]

Population	Michigan Number	Michigan Percent	Shiawassee-Clinton Area Number	Shiawassee-Clinton Area Percent
Total	7,823,194	--	74,425	--
Male	3,882,868	49.6	36,949	49.6
Female	3,940,326	50.4	37,476	50.4

Further detailed information is provided in Appendix E for those who may find it interesting or helpful.

Marital Status. Observations of Table IV indicate that the Shiawassee-Clinton Area very closely approximates the profile of the entire population of the State of Michigan. For example, the percentage of males 14 years and older who are "widowed or divorced" is 5.7 percent for both the Area and the State. The percentages of the female population in this category were 13.4 percent for the Area and 13.5 percent for the State.

The male population of the area demonstrated a slightly higher percentage in the "married" category (71.7 percent) than the State (70.4 percent). The obvious result of the above is a lower percentage of Shiawassee-Clinton Area males in the "single" category (22.6 percent in the Area compared to 23.9 percent for the State). The female population of the Area follows the same pattern (16.9 percent single and 69.7 percent married) in comparison with the State of Michigan (18.4 percent single and 68.1 percent married).

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[5] Source: U.S. Bureau of the Census. U.S. Census of Population: 1960, Vol. 1, Characteristics of the Population. Part 24, Michigan, Tables 16, 25, and 27.

TABLE IV

MARITAL STATUS OF THE POPULATION 14 YEARS AND OVER: 1960[6]

Marital Status	Michigan Number	Michigan Percent	Shiawassee-Clinton Area Number	Shiawassee-Clinton Area Percent
Male				
Single	626,942	23.9	5,525	22.6
Married	1,845,155	70.4	17,547	71.7
Widowed or divorced	150,704	5.7	1,364	5.7
Female				
Single	500,944	18.4	4,291	16.9
Married	1,856,372	68.1	17,657	69.7
Widowed or divorced	368,452	13.5	3,442	13.4

A detailed breakdown of this information has been provided in Appendix F and G for those readers who may be interested in further analysis according to political subdivisions.

Selected Social Characteristics. The census information provided indices of population mobility, education, and other social characteristics. In the presentation of such data the Census does not make such analysis on minor political subdivisions. It was not possible to isolate that part of Clinton County which is included in the Vocational-Technical Study. We have already discussed the similarities in historical background; therefore, we will consider the Shiawassee County information and assume that the results from the contiguous portions of Clinton County would not be too dissimilar. The information is presented in Table V.

Origin and Orientation

Shiawassee County has a lower percentage of foreign born persons in its population (3.5 percent) than does the State of Michigan (6.8 percent). Owosso is slightly higher in percent of foreign born residents than the entire County, but it is still below the State percentage. One of the prevalent thoughts expressed in the histories of the Area was the reference to the great number of "first settlers" names still on mailboxes along rural roads. The family estates have been preserved and their progeny have stayed in this area, thus accounting for a significant portion of the population.

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[6] Source: U.S. Bureau of the Census. U.S. Census of Population: 1960, Vol. 1, Characteristics of the Population, Part 24, Michigan, Tables 18, 25, and 28.

TABLE V

SELECTED SOCIAL CHARACTERISTICS OF MICHIGAN, SHIAWASSEE COUNTY, AND CITY OF OWOSSO: 1960[7]

Population Characteristics	Michigan	Shiawassee County	Owosso
Total population number	7,823,194	53,446	17,006
Percent foreign born	6.8	3.5	4.3
Percent population born in Michigan	72.1	84.2	81.0
Percent of persons who moved into house after 1958	21.7	20.6	23.4
Percent of elementary school children in private school	18.1	8.4	17.4
Percent of persons age 14-17 in school	90.1	91.9	90.4
Median school years completed by persons age 25 years and over	10.8	10.7	11.0
Percent of persons age 25 and over who completed four years of high school or more	40.9	40.6	42.4
Percent of families with children under six years old	33.4	33.4	33.4
Percent of population, rural non-farm	21.0	39.4	--
Percent of population, rural farm	5.6	17.4	--

The Census information on population classed as "rural farm" and "rural non-farm" may have been affected by the unity of the early settlers' families. In the State of Michigan, only 5.6 percent of the population is engaged in farming their land, whereas in Shiawassee County, 17.4 percent of the population is classified as rural farm.

For an explanation of the proportion of residents classified as rural non-farm, those who live in the rural areas but do not farm their land, one must return again to the unity of the early settler's family. It is a very common practice in the area for parents to give their children a lot on the family farm. Many of these young people have built homes on these lots but do not engage in farming. Instead many commute to Lansing, Flint, or to

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[7] Source: U.S. Bureau of the Census. U.S. Census of Population: 1960, Vol. 1, Characteristics of the Population, Part 24, Michigan, Tables 33, 36, 32, 35, and 3.

Owosso to work in business or industry. These people may in part account for the fact that Shiawassee County has 39.4 percent of its population categorized as rural non-farm compared to the State percentages of 21.0 percent.

Mobility

Closely related to "origin and orientation" is the phenomenon of population mobility. The Census data indicate a high percentage of the populations of Owosso and Shiawassee County were born in Michigan (81.0 and 84.2 percent respectively) compared to 72.1 percent for the State of Michigan. Using still another criteria, as of the 1960 Census 20.6 percent of the County population had moved into their house after 1958. This compared to the State percentage of 21.7 and the Owosso percentage of 23.4 percent. A high percentage in this category might not reflect mobility but might instead reflect a booming residential building program.

Education

It is interesting to note (Table V) that the median school years completed by persons age 25 years and over was approximately the same for the State and Shiawassee County (10.8 and 10.7 years, respectively). Shiawassee County's 40.6 percent very closely approximated the State's 40.9 percent in the category "Percent who completed four years of high school or more." The city of Owosso slightly exceeded both the State and County in these two areas.

Further comparison indicates very close similarities in percents of families with children under six years old (33.4 for all three governmental units) and percent of persons 14 to 17 years old in school (Shiawassee County exceeded the other two units very slightly). The greatest difference appears in comparing the percent of elementary school children attending private school. Owosso (17.4 percent) and the State of Michigan (18.1 percent) are much higher than the percentage for Shiawassee County (8.4 percent).

Selected Economic Characteristics. Presented in Table VI are data on selected economic characteristics for Shiawassee County only. The assumption is made that these data are probably indicative of the characteristics of the entire area under study.

Employment

Shiawassee County experienced a lower rate of unemployment than did the State of Michigan in 1960. Current figures from the Michigan Employment Security Commission office indicate that this is the general pattern for the County. Unemployment percentages tend to fluctuate more in response to conditions in Flint and Lansing than they do to local conditions. As Table VI indicated, the local unemployment rate was 5.9 percent as compared to the State percentage of 6.9 percent.

It is also evident that a greater percentage of females age 14 years and over are employed in Shiawassee County than in the

State. The employment of 40.5 percent of the Owosso female population in this age range is approximately 8 percent above the State figure. It is also interesting to note that the percentage of married women, husbands present, working is 35 percent in Owosso compared to 28.1 and 31.6 percents respectively for Michigan and Shiawassee County.

TABLE VI

SELECTED ECONOMIC CHARACTERISTICS OF MICHIGAN, SHIAWASSEE COUNTY, AND CITY OF OWOSSO: 1960[8]

Employment and Economic Characteristics	Michigan	Shiawassee County	Owosso
Percent in labor force:			
Females 14 years old and over	32.7	34.1	40.5
Married women, husband present	28.1	31.6	35.0
Males 18 to 24 years old	79.9	85.7	89.3
Males 65 years old and over	26.2	30.2	35.8
Civilian labor force unemployed	6.9	5.9	5.8
Percent of employed persons:			
Manufacturing industries	38.0	40.7	40.9
White collar occupations	40.1	33.2	39.0
Median income of families	$6,256	$5,740	$6,157
Percent of families with income:			
Under $3,000	15.7	16.8	14.0
$10,000 and over	17.4	11.8	14.5

Equally significant are the Owosso employment statistics on young men and males 65 years and older. Almost 90 percent of Owosso men 18 to 24 years of age were employed in 1960 compared to about 80 percent for the State. Approximately one-third of the County's men, ages 65 and over, were employed as compared to the State figure of one-fourth.

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[8] Source: U.S. Bureau of the Census. U.S. Census of Population: 1960, Vol. 1, Characteristics of the Population, Part 24, Michigan, Tables 33 and 36.

As an indication of the possible need for industrial-related vocational-education programs, 40.7 percent of employed persons in the County were engaged in this type of work. This is nearly 3 percent above the percentage for the State of Michigan. Conversely, Shiawassee County has approximately 7 percent fewer white collar workers than the State. Owosso, however, very closely approximates the State percentage of white collar workers (39.0 and 40.1 percent respectively).

Family Income

The statistics of the 1960 census indicate that the median family income in Shiawassee County was about $500 below the State median, while for Owosso the median was only $100 below that of Michigan. This indicates that the average family income in those areas of the County outside of Owosso is well below that in Owosso. This is further substantiated by the information on family incomes less than $3,000 or more than $10,000 a year. Shiawassee County has a higher percent of families with incomes of less than $3,000 per year than the State. A smaller percent in the County than in the State have an income of more than $10,000 per year.

Part III

THE ECONOMIC BASE OF THE SHIAWASSEE-CLINTON AREA

Shiawassee County and the portions of Clinton County included in this study are traditionally considered to have an agriculturally based economy. Agriculture is still an important factor to the Area; however, industrial growth is beginning to provide a greater diversity for the economic base. In addition to local factors, the Area is affected by the economics of adjacent communities and the ease of transportation to these areas.

Transportation and Communications. The Area is served by several state and federal highways. U.S. 27 is a four lane divided highway which connects St. Johns and Lansing. This highway, in connection with several other federal highways, links Mackinaw City and Lansing. Much of the North-South traffic through the center of the State travels this route, on which St. Johns is the only community which is not by-passed in the 250 mile span of this highway. Many St. Johns residents demonstrate a Lansing orientation largely because of this very accessible route.

State highway M-78, a four lane divided route from Lansing to Flint, crosses the south-eastern corner of Clinton County and the southern portion of Shiawassee County. It places both industrial complexes within commuting distance of many Area residents. Currently, construction is underway to make M-78 a "limited access" highway in the interest of safety.

Highway M-21 is a direct route from Flint to Grand Rapids. This two-lane route passes through or very near Corunna, Owosso, Ovid and St. Johns. Another highway of importance is M-47, which runs through Owosso and Perry and provides a North-South route through Shiawassee County. It intersects highways M-21, M-78, and

Interstate 96.

Other important highways are M-71, linking Corunna and Durand, and M-13, providing an access to New Lothrop. County roads provide a network of routes connecting all of the communities in this study.

Three railroads service the Area; however, only the Grand Trunk provides passenger service in addition to freight service. Area residents may board trains at Durand for Detroit to the Southeast, for Port Huron to the Northeast, and through Lansing to Chicago to the Southwest. The New York Central and the Ann Arbor Railroads also provide freight service to the Area.

Indian Trails Bus Line serves this Area with principal routes following M-21, M-78, and M-47. Most of the communities located on these routes are regularly scheduled stops.

Other communities adjacent to the Area provide railroad and airline service. In addition to these, many residents utilize the services offered in the Detroit Area.

The Study Area is also served by several newspapers, The Owosso Argus-Press is the only daily newspaper published in the Area. Many persons, however, subscribe to Lansing, Flint, Saginaw and Detroit newspapers. Complementing the local news coverage of the Argus-Press are six weekly papers: The Durand Express, The Elsie Sun, The Laingsburg Press, The Shiawassee County Journal (Perry), The Union Register (Ovid), and The Clinton County News (St. Johns).

Circulation of the Area Newspapers[9]
(October, 1963)

Daily:	
Owosso Argus-Press	14,037
Weekly:	
Durand Express	2,818
Laingsburg Press	2,000
Shiawassee County Journal	1,287
Elsie Sun	650
Union Register	1,935
Clinton County News	6,635

Radio communication for the local area is provided by radio stations W.O.A.P. (1080 k.c.) Owosso and W.J.U.D. (1580 k.c.) St. Johns, both of which operate on A.M. from sunrise to sunset. W.O.A.P. has begun operating a F.M. station (103.9 m.c.) on an extended day. No television stations exist in the area; however, residents can receive channels from Lansing, Flint and other large cities in Michigan. The Owosso City Commission recently has been discussing the introduction of cable television into the area.

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[9] Michigan Press Association, Michigan Newspapers Directory and Rate Book, 1964.

Telephone service within the Area is provided mainly by the General Telephone Company. New Lothrop is serviced by the Central Telephone Company, while Morrice and Perry are serviced by the Shiawassee Telephone Company.

Basic Utilities. Electricity and gas are provided by Consumers Power Company in this entire Area. However, water and sewerage facilities are independently operated by some communities. The communities of Owosso, Corunna, Durand, and St. Johns operate facilities for water and sewage. Several of the other communities supply water presently, however, many of the residents of the Area must make provisions for water supply and sewage disposal individually.

Equalized Valuations. One indication of economic change is a comparative analysis of state equalized valuation figures for the two counties involved in the study. Both political subdivisions have experienced a steady growth from 1955 to 1965. One will observe, however, that Shiawassee County experienced a decline in state equalized valuation in 1963. This decrease was the result of a change in assessment laws regarding industrial machinery.

TABLE VII

STATE EQUALIZED VALUATIONS

	Clinton		Shiawassee	
Year	Equalized Valuation	Percent of Increase over Previous Year	Equalized Valuation	Percent of Increase over Previous Year
1955	$75,525,000	--	$78,075,000	--
1956	76,596,400	1.3	79,140,900	.9
1957*	82,364,800	7.5	123,639,102	56.2
1958	83,356,100	1.2	128,348,732	3.8
1959	85,057,100	2.0	128,975,500	.5
1960	96,757,900	13.8	151,888,700	17.8
1961	98,500,700	1.8	152,733,681	.6
1962	100,296,800	1.8	152,744,008	.0
1963	102,399,900	2.1	150,686,509	-1.4
1964	105,130,900	2.7	153,224,802	1.7
1965	107,933,687	2.7	156,105,475	1.9

*Assessment practices changed at this time resulting in the tremendous growth in Shiawassee County state equalized valuation.

Clinton County's 1965 state equalized valuation was 142.9 percent of the 1955 figure. Shiawassee increased to 199.9 percent of the 1955 values. This, however, does not take into consideration the change in assessment procedures in 1957. A more valid comparison may be made between 1958 and 1965. Clinton County increased 129.5 percent, while Shiawassee County increased 121.6 percent of the 1958 valuations. The valuations of the two counties may reflect a considerable change next year as both counties are currently undergoing reassessment.

Manufacturing. The growth of industry, which has previously been mentioned, in the Shiawassee-Clinton Area is quite clearly portrayed by the U.S. Bureau of the Census information gathered in 1954, 1958, and 1963 (See Table VIII). This information demonstrates the change which has occurred over approximately a ten-year period. Statistical information about manufacturing in the State of Michigan is provided for the purpose of comparison. In addition, the statistical information for 1958 allows the observer to draw some general conclusions about when the greatest change occurred. However, the reader is reminded that 1958 was a recession year in the State of Michigan.

In the period 1954 to 1963, the two counties in the Study Area showed considerably greater growth than did the State. The "Number of Establishments" in the State rose 9.9 percent, while both counties increased by almost twice that percentage (17.1 percent for Clinton County and 18.5 percent for Shiawassee County). It is interesting to note that Clinton County added five new firms in the first half of the period (1954-1958) and Shiawassee added sixteen new firms in the latter half of the period (1958-1963).

Notable increases in growth of manufacturing were evidenced in Clinton County by increases in the "Number of Employees," 25 percent; "Total Payroll," 82.6 percent; "Wages Paid," 55.9 percent, and "Capital Expenditures," 123.3 percent. In several of these categories the State of Michigan has experienced a decline. In all categories, Clinton County had increases of approximately twice that of the State or greater.

Shiawassee County exceeded State percentages of increase in manufacturing industrial growth by an even greater margin than did Clinton County. The expansion in all categories was greatest during the 1958 to 1963 period. The percentage of increase in several categories is almost four or more times the increase experienced by the State of Michigan (e.g. "Total Payroll," Shiawassee County 161 percent; Michigan 41.9 percent; "Wages Paid," Shiawassee County 137.7 percent, Michigan 23.5 percent; and "Number of Employees," Shiawassee County 50.2 percent, Michigan a minus four percent).

The importance of industry upon the economic base of the Study Area has increased substantially over the ten-year period just considered. The changes in industry, however, may be partially offset by changes in two other areas which are now considered.

TABLE VIII

MANUFACTURING IN CLINTON AND SHIAWASSEE COUNTIES, SELECTED COMPARISONS WITH THE STATE OF MICHIGAN, 1954, 1958 AND 1963[10]

Manufacturing	Years			% of Change (1954-63)
	1954	1958	1963	
Number of establishments:				
Clinton County	29	34	35	17.1
Shiawassee County	75	76	92	18.5
Michigan	12,711	13,429	13,965	9.9
Number of employees:				
Clinton County	863	811	1,079	25.0
Shiawassee County	3,621	4,158	5,439	50.2
Michigan	1,001,630	809,590	961,459	-4.0
Total Payroll ($1,000):				
Clinton County	3,736	4,287	6,821	82.6
Shiawassee County	11,718	19,128	30,587	161.0
Michigan	4,891,749	4,618,694	6,941,128	41.9
Number of production workers:				
Clinton County	709	623	753	6.2
Shiawassee County	2,895	3,188	4,205	45.3
Michigan	809,316	608,856	692,212	-14.5
Wages paid ($1,000):				
Clinton County	3,020	3,159	4,707	55.9
Shiawassee County	8,900	12,650	21,157	137.7
Michigan	3,660,965	3,184,797	4,522,115	23.5
Capital expenditures ($1,000):				
Clinton County	279	298	623	123.3
Shiawassee County	1,422	1,546	2,023	42.3
Michigan	870,465	444,030	721,073	-17.2

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[10] U.S. Bureau of the Census. U.S. Census of Manufacturers; 1963, Vol. III Area Statistics. U.S. Government Printing Office, Washington, D.C., Section 21, Table III.

Retail Trade. Greater percentages of increase in retail sales occurred in Clinton County than in either Shiawassee County or the State. Percent increases for "Number of Establishments," "Number of Establishments with Payroll," and "Number of Paid Employees" were four to six times greater than the increases for the State. Clinton County had an increase in "Total Payroll" of 67.4 percent compared to 26.3 and 20.6 percents respectively for Michigan and Shiawassee County.

TABLE IX

RETAIL SALES IN CLINTON AND SHIAWASSEE COUNTIES,
SELECTED COMPARISONS WITH THE STATE OF MICHIGAN,
1954, 1958 AND 1963[11]

Retail Sales	Years			% of Change
	1954	1958	1963	(1954-63)
Number of establishments:				
Clinton County	301	336	337	12.0
Shiawassee County	503	596	530	5.4
Michigan	67,995	72,379	69,758	2.6
Number of establishments with payroll:				
Clinton County	225	234	265	17.7
Shiawassee County	399	402	424	6.3
Michigan	50,331	52,291	51,568	2.5
Number of paid employees:				
Clinton County	823		1,086	32.0
Shiawassee County	2,024		2,018	-.3
Michigan	324,684		340,031	4.7
Total sales ($1,000):				
Clinton County	25,685	28,003	40,103	56.1
Shiawassee County	55,316	59,174	71,411	29.1
Michigan	8,167,632	8,897,661	10,855,344	32.9
Total Payroll ($1,000):				
Clinton County	1,979	2,316	3,312	67.4
Shiawassee County	5,099	5,262	6,147	20.6
Michigan	878,983	945,716	1,110,212	26.3

Shiawassee County showed a percent increase in both "Number of Establishments" and "Number of Establishments with Payrolls" but indicated a minus .3 percent decline in the actual number of employees. Shiawassee County had lower percentages of increase in "Total Sales" and "Total Payroll" than the State. It is also noteworthy that in 1954 Shiawassee County had 503 establishments; in 1958 it had 596; and, in 1963, it had 530. The Bureau of the Census information did not provide any clues to this upswing and decline.

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[11] U.S. Bureau of the Census. U.S. Census of Business: 1958. Vol. II, Retail Trade--Area Statistics. U.S. Government Printing Office, Washington, D.C., 1961. Section 22, Table 102.

Selected Services. On comparing data presented on the growth of Selected Services, an observer is immediately made award of the incongruities within the Study Area. Clinton County has the smallest percentage of increase in "Number of Establishments" (36.6 percent), an increase in "Number of Establishments with Payrolls"

TABLE X

SELECTED SERVICES IN CLINTON AND SHIAWASSEE COUNTIES,
SELECTED COMPARISONS WITH THE STATE OF MICHIGAN,
1954, 1958 AND 1963[12]

Selected Services*	Years			% of Change
	1954	1958	1963	(1954-63)
Number of establishments:				
Clinton County	112	120	153	36.6
Shiawassee County	180	242	302	67.8
Michigan	26,699	38,521	44,412	66.3
Number of establishments with payroll:				
Clinton County	42	50	63	50.0
Shiawassee County	70	94	108	54.3
Michigan	15,127	17,653	20,188	33.5
Number of paid employees:				
Clinton County	98		128	30.6
Shiawassee County	348		330	-5.2
Michigan	92,783		114,614	23.5
Total Receipts ($1,000):				
Clinton County	1,234	1,544	2,176	76.3
Shiawassee County	3,002	3,993	4,933	64.3
Michigan	1,015,601	1,379,788	1,793,127	76.6
Total annual payroll ($1,000):				
Clinton County	188	258	364	93.6
Shiawassee County	720	949	926	28.6
Michigan	267,397	337,836	424,213	58.6

*Selected Services refer to establishments providing goods and services in the Study Area.

[12] U.S. Bureau of the Census. U.S. Census of Business: 1958. Vol. VI, Selected Services--Area Statistics. U.S. Government Printing Office, Washington, D.C., 1961. Section 22, Table 102.

(50 percent), an increase in the "Number of Paid Employees" (30.6 percent), and an increase in "Total Annual Payroll" (93.6 percent). Shiawassee County, on the other hand, had the largest percentage increase in "Number of Establishments," and those "with payroll," yet it showed the lowest increase in "Total Annual Payroll" and a decrease of 5.2 percent in the "Number of Paid Employees."

Part IV

BASIC SOCIAL SERVICES IN THE SHIAWASSEE-CLINTON AREA

Welfare. Basic welfare services are made available to the Area through cooperative State and County programs. Residents of Shiawassee and Clinton County may seek the following services through the Bureau of Social Aid or Department of Social Welfare.

1. Direct Relief - (Food, fuel, shelter and medical aid).
   Clinton County - 99 individuals; $89,900 (1962).
   Shiawassee County - 126 individuals: $97,900 (1962).[13]

2. Social Aid:
   a. Old age assistance
   b. Aid to dependent children
   c. Aid to the blind
   d. Medical assistance to the aged
   e. Aid to the physically disabled
   f. Hospitalization of afflicted adults

In order to better illustrate the importance of social aid to the residents of the two counties, Table XI is presented at this time.

TABLE XI[14]

MICHIGAN PUBLIC ASSISTANCE PAYMENTS AND NUMBER OF RECIPIENTS UNDER MAJOR PROGRAMS BY COUNTY: FISCAL YEAR ENDING JUNE 30, 1962

County	Old Age		Aid to Dep. Children		Aid to Blind		Disabled Cases	
	No. of Recip.	Payment Thousands	No. of Recip.	Payment Thousands	No. of Recip.	Payment Thousands	No. of Recip.	Payment Thousands
Clinton	269	$245,200	103	$165,500	4	$ 3,400	15	$12,400
Shiawassee	475	$408,300	112	$169,900	14	$11,800	33	$26,500
Total	744	$653,500	215	$335,400	18	$15,200	48	$38,900

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[13] Michigan Social Welfare Commission, Biennial Report, 1962.

[14] Ibid.

These programs combined provided needy residents of the counties involved with services totaling $1,043,000 in the fiscal year 1961-62. In numbers of recipients, three of the programs served 810 individuals in addition to 215 families under Aid to Dependent Children.

Medical. Shiawassee County operates a medical care facility, Pleasant View Hospital, which is currently being expanded from 78 to 160 beds. Clinton County operates a county infirmary for the aged. In addition to these facilities, the Area has hospitals at Owosso, Durand, and St. Johns. Data on medical services in the two counties are presented in Table XII.

TABLE XII[15]

MEDICAL FACILITIES IN MICHIGAN BY COUNTY, 1964

Area	Population 1960	Number Hospital Beds	Registered Medical Doctors	Dentists 1962
Clinton	37,969	89	16	9
Shiawassee	53,446	209*	32	27
Michigan	7,823,194	33,452	8,024	4,245

*This does not include new additions at the Memorial Hospital in Owosso or the Pleasant View Hospital in Corunna. The present number of hospital beds in Shiawassee County is 228. Private nursing homes or convalescent facilities are not included in this cited table.

A comparison of availability of medical services may be made by dividing the population by the number of beds, doctors or dentists. (This does not present an entirely accurate portrayal of the Study Area, for many residents utilize facilities in adjacent areas, and people outside of the Area use local facilities). It would appear that both counties may not be as well serviced by medical services as the State. The ratio of hospital beds to population, according to the 1964 figures, is: 1 to 427 in Clinton County; 1 to 255 in Shiawassee County; and 1 to 234 in the State of Michigan. The ratios of Medical Doctors are as follows: Clinton, 1 to 2,373; Shiawassee, 1 to 1,670; and Michigan, 1 to 975 persons. In these areas there is one dentist for each 4,219 persons in Clinton County, 1,979 persons in Shiawassee County, and 1,843 persons for the State of Michigan.

Recreation. Shiawassee and Clinton Counties provide many recreational advantages to the Area residents. Hunting in the Area is generally good and the fall season temperatures are moderate. Both pheasant and deer seasons bring to the Area hunters from Detroit, Lansing, Flint, and other southern Michigan metropolitan centers. Much of the farm land is posted against unauthorized hunting but many farmers will permit hunting to those who ask. In addition to farm land, hunting, several game farms, gun clubs, and shooting preserves exist in the Area.

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[15] Michigan Statistical Abstract, 1965. Table III, p. 41.

The Shiawassee Maple, and Looking Glass Rivers and many lakes and ponds in the Area provide fishing. Many of these lakes are man-made and very well stocked; however, club membership or property ownership is sometimes a prerequisite for access to those lakes. Several fine swimming and boating areas are available in this locality. (Many assess a fee for the privilege of swimming or entering the beach area.) Water skiing is allowed on some of these lakes and on the rivers of the Area. Many of the residents take advantage of swimming and boating facilities in adjacent counties.

Golf courses have been developing rapidly in the Area lately. The Owosso Country Club and the Clinton Country Club offer golfing to members and guests. Three nine-hole public courses may be found in Corunna, Durand and Shia-Town. A par-three course is located near Laingsburg and several miniature golf courses and driving ranges are also found in the Area. Another golf course is under construction near Byron. Sleepy Hollow State Park near Laingsburg and Ovid is currently being developed by the Michigan Department of Conservation. This park will include provisions for swimming, boating, camping and picnics, and should greatly enhance the recreational opportunities for Area residents. To the recreational facilities and opportunities listed above must be added the many picnic areas and roadside tables along the highways of the Area. Also, the several rivers which flow through the region and the farm lands, as they change in seasonal appearance, provide recreation for those who merely wish to look.

Part V

TRENDS

As background material was gathered for the Study, certain changes in the socio-economic character of the Area suggested future trends. These trends may be of assistance to the Committee in arriving at a final decision (Some of the trends have already been noted in the first four portions of this chapter).

Population. In recent estimates of population made by Stanford University, the following predictions of population growth were made. Clinton County is predicted to have a population of 41,100 in 1965, 44,100 in 1970, 47,800 in 1975, and 51,900 in 1980. Shiawassee County is predicted to grow from 57,300 in 1965 to 61,000 in 1970, to 65,800 in 1975, and 71,000 in 1980. For the purpose of comparison, consider the populations of the counties in 1930 (Clinton County 24,174 and Shiawassee County 39,517).[16]

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[16] Stanford Research Institute Basic Economic Projections, United States Population, 1965-1980.

Housing. In Clinton County in April, 1960, there were 11,178 housing units, Shiawassee had 16,805 units. These units have been studied by date of construction and by present condition as shown in Table XIII.

The "year of construction" analysis indicates that 22.8 percent of Clinton and 20.2 percent of Shiawassee housing units have been built since 1950. Two-thirds of the homes in the Area were built in the period prior to 1940. Some of the homes in this category are of Civil War period vintage. The press of increased population will create greater growth in new home construction.

In studying the conditions of housing units it may be noted that the two counties reflect approximately the same percentages. Another factor that must be considered is that not all housing units are actually occupied.

TABLE XIII[17]

AGE AND CONDITION OF HOUSING UNITS
BY COUNTY (APRIL 1, 1960)

Housing Characteristics	Clinton Number	Clinton Percent	Shiawassee Number	Shiawassee Percent
Year of Construction:				
1939 or before	7,307	65.4	11,745	69.9
1940-49	1,321	11.8	1,664	9.9
1950-54	963	8.6	1,359	8.1
1955-58	1,205	10.8	1,634	9.7
1959-60	382	3.4	403	2.4
Condition:				
Sound	8,800	78.7	13,207	78.6
Deteriorating	1,932	17.3	2,995	17.8
Dilapidated	446	4.0	603	3.6

(850 Clinton County and 1,373 Shiawassee County housing units were not occupied in April of 1960).

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[17] Michigan Statistical Abstract, 1965, Table VI-2, p. 172; Table VI-1, p. 172.

Urban-Rural Residence. Another interesting trend is indicated by comparison of place of residence. In Table XIV one may observe that the ratio of urban dwellers to rural dwellers has varied by about six percent in Clinton County, while Shiawassee County has experienced a change of less than two percent. The greatest change has occurred in the make-up of that portion of population classified as "Rural." In Clinton County the "Rural Farm" category had decreased to 27.9 percent or 12.3 percent less of the total county population than in 1950. Conversely the "Urban" and "Rural Non-Farm" increased 5.8 and 6.5 percents respectively. Shiawassee demonstrated a similar pattern of development as "Rural Farm" decreased by 11.9 percent while "Urban" population increased by 1.6 percent, and "Rural Non-Farm" increased by about 10.3 percent.

TABLE XIV[18]

RURAL-URBAN POPULATION OF CLINTON AND SHIAWASSEE COUNTIES

Locality	Clinton County		Shiawassee County	
	1950	1960	1950	1960
Urban	4,950-15.9%	8,228-21.7%	19,142-41.6%	23,082-43.2%
Rural	26,241-84.1%	29,681-78.3%	26,825-58.3%	30,360-56.8%
Rural Farm	(12,521-40.2%)	(10,574-27.9%)	(13,444-29.2%)	(9,269-17.4%)
Rural Non-Farm	(13,720-43.9%)	(19,107-50.4%)	(13,381-29.2%)	(21,068-39.4%)
Totals:	31,191	37,909	45,967	53,446

Agriculture. Earlier reference has been made to the importance of agriculture in the Area economy. To illustrate the growth in agriculture, data on Study Area Counties "land in farms" and "farm products sold" is presented in Table XV.

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[18] United States Census - Michigan data for specified years.

TABLE XV[19]

CHARACTERISTICS OF FARMS BY COUNTY

County	1950	1959	Change
Clinton County:			
Land in farms	327,419 acres	324,364 acres	- 3,055 acres
Number of farms	2,706 farms	2,285 farms	- 421 farms
Commercial farms	2,101 farms	1,512 farms	- 589 farms
Average size	121 acres	142 acres	- 21 acres
Shiawassee County:			
Land in farms	308,951 acres	296,723 acres	- 12,228 acres
Number of farms	2,848 farms	2,228 farms	- 620 farms
Commercial farms	2,155 farms	1,476 farms	- 679 farms
Average size	111 acres	133 acres	- 22 acres

Table XV demonstrates clearly a decrease in the total numbers of acres in farm land, number of farms, and number of commercial farms. The lone increase was in the average size of the farm. An observer might conclude that agriculture is declining. Table XVI indicates that the income from farm products sold almost doubled between 1945 and 1959. Agriculture is then, in fact, increasing in dollar value but decreasing in the amount of land necessary.

TABLE XVI[20]

FARM PRODUCTS SOLD - SHIAWASSEE COUNTY, CLINTON COUNTY

Year	Clinton County Value of Products	Shiawassee County Value of Products
1945	$ 7,317,420	$ 7,126,920
1950	10,133,476	9,408,196
1954	12,284,244	11,191,192
1959	14,328,084	13,544,094

As more information is gathered, trends of increasing population, increasing industrial production, and increasing agricultural production become more apparent as does their influence upon the needs of the Area.

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[19] United States Census - Michigan Data for specified years.

[20] Ibid.

SUMMARY

1. Residents of Clinton and Shiawassee Counties have shared a common history, an agriculturally based heritage and economy, and an emerging industrial development.

2. Population of the Study Area has followed a slow steady growth pattern, the rate of which has been less than for the State as a whole.

3. Slightly more than a third of the population in the Study Area was under age fifteen in 1960, and 48 percent is under age twenty-five. An eighth of the population was under age five.

4. The age, sex, and marital status composition of the population in the Study Area closely resembles that for the State.

5. Although a higher proportion of Shiawassee County residents are rural non-farm than is true of the State as a whole, the trend is for an increase in rural non-farm residents and a decrease in the percent of those classed as rural farm. While the numbers of acres in farming is decreasing, the income from farm products has tended to increase.

6. Population is highly stable.

7. Shiawassee has experienced a lower rate of unemployment than did the State; median family income is lower; and the percent of families with incomes over $10,000 is significantly lower.

8. Shiawassee County is served well by good systems of transportation and communication, but basic utilities and facilities for water supply and sewage disposal are provided on an individual basis.

9. Industrial growth, especially during the last decade, has been accompanied by a steady increase in equalized assessed valuation which currently is approximately $156 million.

10. The percent growth in retail sales during the last decade was less than for the State or Clinton County, but the percent growth in number of establishments providing goods and services increased about 68 percent which was more than it was for the State.

11. The Area seems well served by welfare and recreational services, but it may not be as well serviced by medical services as is the State as a whole; the ratio of medical doctors, hospital beds, etc., per 1,000 population is greater than in other areas.

12. The conclusion can be drawn that Shiawassee County is in a transition stage from an agricultural economy to an industrial one. Although agricultural income is upward, the percent of persons residing in rural farm areas who engage in agriculture is declining. As a consequence of trends underway, various sociological changes are expected within the next several years.

CHAPTER II

A STUDY OF HIGH SCHOOL SENIORS

Introduction. Shiawassee-Clinton County Area High School Seniors were contacted to determine which ones and how many might profit from the post-high school educational programs considered in this study. To make this identification, the survey questions were designed to reveal the reasons these seniors had for excluding further education.

Previous studies have shown that the plans of high school seniors are consistent enough with their post-graduate actions to draw reliable conclusions. Assuming then that the 1964-65 Study Area Seniors are similar to those who will follow them in the next several years, certain predictions for the future are projected based upon a study of them.

The survey was conducted in the spring of 1965 by the use of questionnaires developed for the purpose, and as modified by the Youth and Adults Subcommittee and local high school principals and counselors. The questionnaire was administered with standardized procedures to all seniors of the eleven public high schools in Shiawassee and Clinton Counties. To eliminate bias in responses, the seniors were told only that the study was being conducted to obtain information for improving educational opportunities, and no reference was made to its being part of a vocational-technical education survey. Questionnaire responses from 564 boys and 582 girls were coded for IBM processing by members of the committee. The data were then key-punched and processed by the Power Controls Division Midland-Ross Corporation, Owosso, Michigan. Of the 1,146 seniors who participated, 30 percent were from Owosso High School, 18 percent from St. Johns, 13 percent from Corunna, eight percent from Durand, six percent from Elsie, and about six percent each from Ovid and Perry, five percent each from Laingsburg and Byron, two percent from Morrice, and almost two percent from New Lothrop.

Mobility and Nature of Student Population. For educational planning it is necessary to determine the nature of residence of the prospective student body. Seniors were therefore asked how long they had lived in the Area. The findings presented in Table XVII reveal that 92 percent of the seniors had lived in the high school district for at least three years and that 86 percent had been there at least six years, or since junior high school. Seventy-seven percent had lived in the Area over 10 years. Three percent did not live in the Area.

While the out-migration of youth from the Area was not reflected by the data, of those currently in school, most had been in the Area a long time. Only six percent had lived in the Area less than three years.

Considering that a high degree of youth residing in homes broken by death, separation or divorce might result in leaving the Area soon after graduation, seniors were asked to indicate with whom they were living. Fourteen percent of all seniors were found to be living with someone other than both parents (the national average is 12). Ten percent of these were living with one parent, one percent with neither parent, and three percent indicated "other."

TABLE XVII

YEARS HOME HAD BEEN IN SHIAWASSEE-CLINTON COUNTY AREA

Length of Residence	Percent by Sex Boys	Girls	Both
Less than a year	3	3	3
1 - 2 years	3	2	3
3 - 5 years	6	6	6
6 - 10 years	8	9	9
Over 10 years	78	76	77
Not in Area	3	3	3

Assuming that part-time work during the school year may indicate matters relevant to this study, financial need and/or vocational-technical interest, seniors were asked if they worked part-time. Seventy-four percent of the boys and 53 percent of the girls said they did.

Educational Intentions of Seniors Enrolled in Spring of 1965. To get an indication of seniors' educational plans, they were asked if their future plans would include college attendance. The results are presented in Table XVIII. Opposite each plan for college are shown the number and percent of boys and girls who indicated it as their plan.

TABLE XVIII

SENIORS' PLANS FOR COLLEGE ATTENDANCE

Plan about college attendance	Boys		Girls		Both	
	Number	Percent	Number	Percent	Number	Percent
No	89	16	124	21	213	19
Probably Not	40	7	34	6	74	6
Sub-Total	129	23	158	27	287	25
Probably So	110	19	86	14	196	17
Yes	249	44	248	43	497	43
Sub-Total	359	63	334	57	693	60
Don't Know	73	13	86	15	199	14
No Response	3	1	4	1	7	1
Totals	564	100	582	100	1146	100

Of the boys for example, 89 or 16 percent definitely do not plan college attendance, and 7 percent more indicated plans would probably not include college. Of the girls, 124 or 21 percent definitely do not plan college, and of both sexes, 213 seniors or 19 percent definitely do not plan college attendance. In contrast, 497 seniors or 43 percent definitely do plan college attendance, the boys and girls being almost equal in both number and percent. Also, 17 percent of both boys and girls indicated their plans probably would include going to college, and 14 percent didn't know whether they would.

Where Seniors Expect to Attend College. Seniors who indicated definite or probable plans for college attendance were asked where they planned to attend. These responses are presented in Table XIX. They give an indication of the amount of intended attendance at a particular institution of a particular kind. Of the four-year colleges or universities, Michigan State University is the choice of 20 percent of seniors with plans for college, or 12 percent of all seniors. The University of Michigan was the choice of four percent of seniors with plans for college, or two percent of all seniors; Central Michigan University, the choice of ten percent with plans for college, or six percent of all seniors; Ferris State College, the choice of seven percent with plans to go on, six percent of all boys and three percent of all girls. Western Michigan University was the choice of four percent of seniors with plans for college, or two percent of all seniors; and Owosso College the choice of about one percent of seniors in both categories. Specified four-year institutions were the choice of a total of 46 percent of seniors with plans for college, or 27 percent of all seniors. Community colleges were the choice of 21 percent of seniors with plans for college, or 13 percent of all seniors. Lansing Community College was of interest to 11 percent and Flint Community College to ten percent of seniors with plans for college, or seven and six percents respectively of all seniors. Twenty percent of seniors with plans for college expect to attend some other college in Michigan, and 11 percent of these seniors some college outside of Michigan. Forty percent of all seniors did not respond, for only those with definite or probable plans for college were expected to answer this question.

Educational institutions known to offer some post-high school level curriculums of a vocational-technical nature namely, Ferris State College, Lansing Community College and Flint Community College were the choices of 28 percent of the seniors with plans for college, or 17 percent of all seniors. This choice was by 36 percent of senior boys with plans for college, or 22 percent of all senior boys and 22 percent of senior girls with plans for college, or 13 percent of all senior girls.

TABLE XIX

WHERE SENIORS EXPECT TO ATTEND COLLEGE

College or University	Percent of all seniors			Percent of seniors with plans for col.		
	Boys	Girls	Both	Boys	Girls	Both
Michigan State Univ.	14	11	12	22	19	20
University of Mich.	3	2	2	4	4	4
Central Michigan Univ.	6	6	6	10	10	10
Ferris State College	6	3	4	10	5	7
Western Michigan Univ.	3	2	2	5	3	4
Owosso College	-*	2	1	-	3	1
Lansing Community Col.	8	6	7	13	10	11
Flint Community Col.	8	4	6	13	7	10
Other college in Mich.	8	16	12	12	28	20
Other college outside Michigan	7	6	6	11	10	11
No Response	37	42	40	-	-	-

*Minus (-) signifies less than .5 of one percent was measured.

Youth Plans for Period Immediately after Graduation. As a validity check on the responses concerning future educational plans, the seniors were asked their plans for the immediate future. Table XX shows the results analyzed by plan for college attendance. This analysis distinguishes particularly between those seniors who plan to attend college the next year and those who intend to delay college entrance. Of the boys who definitely plan to attend college for instance, nine percent said they planned to work on a job next year. Of girls with definite plans, 15 percent said they had similar work plans. On the other hand of boys definitely not planning college attendance, 72 percent expected to work on a job; 11 percent expected to enter military service; three percent intend to work at home; six percent expect to attend a trade or technical school; five percent don't know; and three percent indicated some other plan.

Of those seniors indicating definite future plans for college attendance, 78 percent of the boys and 73 percent of the girls intend enrollment in college the coming fall. When other fall enrollment is combined, another eight percent of the boys plan on either business college or trade or technical school, and another 22 percent of the girls plan enrollment in business college, nursing or trade or technical school.

Of seniors whose plans will probably include enrollment in a post-high school educational institution, 16 percent of the boys and 26 percent of the girls expect to attend college the year following graduation. An additional six percent of the boys expect to attend a trade or technical school, and another 22 percent of the girls a business school. Over half the boys and almost two-thirds of the girls whose future plans would "probably" include college expect to work the year after graduation.

TABLE XX

PLANS FOR COLLEGE DISTRIBUTED ACCORDING TO PLANS FOR NEXT YEAR AFTER GRADUATION

Plans for next year	Boys (Percent)					Girls (Percent)				
	No	Prob. Not	Prob. So	Yes	Don't Know	No	Prob. Not	Prob. So	Yes	Don't Know
Work on a job	72	60	53	9	69	78	88	64	15	91
Housewife	-	-	-	-	-	42	29	9	3	14
Military service	11	10	6	1	10	4	-	-	-	1
Work at home	3	10	3	1	6	2	6	6	1	4
Attend college	-	-	16	78	1	-	-	26	73	1
Attend business college	-	-	-	4	-	2	3	22	10	15
Attend trade or technical school	6	10	6	4	7	4	9	4	2	2
Attend nursing school	-	-	-	-	-	1	3	14	10	4
Don't know	5	-	8	1	4	2	-	2	-	2
Other	3	10	9	1	4	6	6	11	5	12

It should be noted further that some seniors who indicated plans include further education or training also said they planned to enroll in some institution in the fall. Of the boys, six percent of those who said they had no plans indicated intention to enroll in trade or technical school in the fall, as did ten percent of those who said they probably would not and seven percent of those who didn't know if they would attend. Of the girls, two percent of those who said they had no plans indicated fall enrollment intentions in a business college, as did three percent of those who said they probably would not, and 15 percent of those who did not know. Similar indications can be noted of girls in regard to their intentions and their fall enrollment plans in trade or technical school, and nursing school.

Comparatively, while 497 seniors, or 43 percent of all seniors, indicated definite plans for college (Table XVIII) 458, or 40 percent from all classifications of college attendance plans plan to enroll in some post-high school educational institution in the fall the year following graduation. This constitutes 244 boys, or 43 percent of all boys, and 214 girls, or 37 percent of all girls. For the boys, the number and percentage by themselves are nearly identical; for the girls about six percent fewer overall have plans for fall enrollment than have plans for college, 37 percent as compared to 43 percent, or 214 girls as compared to 248. Of those seniors with definite plans for college, 214, or about 86 percent of the boys and 196, or 79 percent, of the girls plan to enter a school next fall.

When these data are reviewed according to their relevance to an Area Vocational-Technical School, it appears that such a school might have and perhaps "ought" to have been of interest to about 113 or about 20 percent of all boys and to 180 or about 31 percent of all girls. These figures are based on the following reasoning. Of the 43 percent of all seniors definitely planning college attendance, nine percent of the boys and 15 percent of the girls expect to work on a job next year. Likewise do 53 and 64 percents, respectively, of the boys and girls who probably plan college attendance. This group represents about 17 percent of all seniors who expect to work the year following graduation.

In the area of curriculum choice, eight percent of the boys planning college attendance expect to attend business college, trade or technical school, as do six percent of those boys probably going on to college. Twenty-two percent of the girls planning college attendance expect to attend a business college, a nursing, or trade or technical school, and 22 percent of the girls probably going on to college expect to attend a business college. Of those not planning college attendance, six percent of the boys expect to attend a trade or technical school. Two percent of the girls not planning on college expect to attend a business college; four percent indicated a trade or technical school; and one percent listed a nursing school. Of seniors whose plans will probably not include college ten percent of the boys expect to go to a trade or technical school, as do nine percent of the girls; another three percent each of these girls expect to go to nursing school and business college, respectively.

Curriculum Distribution by Plan for College. Assuming that curricular preparation has a bearing on the seniors' plans for further education or training, a cross-check was made between high school curriculums in which they were enrolled and their plans for college. These data are presented in Table XXI.

TABLE XXI

PERCENT OF SENIORS BY PLAN FOR COLLEGE ACCORDING TO HIGH SCHOOL CURRICULUM

High School Curriculum	No		Prob. Not		Prob. So		Yes		Don't Know	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Commercial	5	43	3	77	7	49	3	15	6	51
College Prep.	3	7	18	12	47	33	84	77	25	14
Shop	20	-	13	-	10	-	3	-	18	-
Agriculture	14	-	18	-	7	-	1	-	11	-
General	53	31	48	6	24	13	6	6	40	27
Homemaking	-	14	-	3	-	2	-	-	-	8
Other	2	2	-	-	2	2	1	1	-	-
No Response	3	4	3	3	3	1	2	2	1	-

Of the boys whose plans definitely did not include college, 53 percent were enrolled in a general curriculum, 20 percent in industrial arts, 14 percent in agriculture, five percent in commercial, and three percent in college preparatory; two percent indicated "other," and three percent did not respond. Of the girls in this category, 43 percent were enrolled in a commercial curriculum, 31 percent in a general, 14 percent in homemaking, seven percent in college preparatory; two percent indicated "other," and four percent did not respond.

Of the seniors with definite plans for college attendance, 84 percent of the boys and 77 percent of the girls were enrolled in a college preparatory curriculum. Another six percent of the boys were in a general curriculum, and three percent were in the commercial and shop curricula. One percent indicated "other," and two percent did not respond. Of the balance of these girls, 15 percent were enrolled in a commercial curriculum and six percent in a general; and, as with the boys, one percent indicated "other," and two percent did not respond.

In the three categories of likely non-college attendance, "No," "Probably not," and "Don't know," the largest enrollment of boys in each category was in a general curriculum,and in a commercial curriculum for girls.

Relationship of Perceived Academic Rank to Plans for College. Assuming that a senior's perception of his own academic ability is a significant factor in his planning of further education or training, the students were asked to indicate to the best of their knowledge whether they were in the top, middle or lower third of their graduating class. The results are shown in Table XXII. (While there is an apparent tendency toward overrating among the lower third, one may assume that such a tendency is likely to indicate higher goals than reality would dictate.)

TABLE XXII

ACADEMIC RANK (SELF-REPORTED) OF ALL SENIORS

Rank in Class	Percent		
	Boys	Girls	Both
Top Third	32	41	37
Middle Third	48	46	47
Lower Third	18	10	14
No Response	1	3	2

An analysis was made of the above academic self-rankings regarding college to determine the extent to which this self-appraisal coincided with apparent requirements for college attendance. The results appear in Table XXIII.

TABLE XXIII

PERCENT OF ALL SENIORS WITH EACH ACADEMIC RANK ACCORDING TO PLAN FOR COLLEGE

Plan for College	Top Third			Middle Third			Low Third		
	Boys	Girls	Both	Boys	Girls	Both	Boys	Girls	Both
No	4	8	6	16	25	21	33	58	42
Prob. Not	2	4	3	8	8	8	14	5	11
Prob. So	8	11	10	28	17	23	19	15	18
Yes	81	70	75	32	28	30	14	5	10
Don't Know	5	6	6	16	21	18	20	17	19

Seventy-five percent of those who see themselves as being in the upper third of their class indicate definite plans for going to college, while six percent definitely do not have such plans. Another ten percent say they will probably go to college, while three percent said they probably will not. Six percent said they didn't know. Of seniors definitely or probably going to college, 85 percent of the top third had such plans, as did 53 percent of the middle third and 28 percent of the lower third. On the other hand, nine percent of the top third said they definitely or probably would not attend college, as did 29 percent of the middle third and 53 percent of the lower third.

Reversing the point of view, the seniors' plans for college are shown in Table XXIV by their perceived academic rank. This shows for example that of seniors definitely not planning college attendance 12 percent are from the top third, 52 percent from the middle third, and 32 percent from the lower third; there was no response from three percent. Of those definitely planning college attendance 63 percent are from the top third, 32 percent from the middle, and three percent from the lower, with one percent not responding.

TABLE XXIV

PERCENT OF SENIORS WITH EACH PLAN FOR COLLEGE ACCORDING TO ACADEMIC RANK

Academic Rank	Plan for College				
	No	Prob. Not	Prob. So	Yes	Don't Know
Top Third	12	16	21	63	15
Middle Third	52	58	62	32	62
Lower Third	32	24	15	3	20
No Response	3	1	2	1	4

When a comparison is made between the two analyses, both indicate that seniors' plans for college and their perceived academic rank are reasonably consistent. For example, while 75 percent of those in the top third plan college attendance (Table XXIII) 63 percent of those planning college attendance (Table XIV appear in the top third. Conversely, while 42 percent of those in the lower third definitely do not plan college attendance (Table XXIII), 32 percent of those definitely not planning college attendance (Table XIV), appear in the lower third.

Reasons for Plans Not Including College Attendance. Since this study is designed for the purpose of determining the need for educational services not now generally available, the reasons youth have for not attending college should be assessed. Therefore, when seniors indicated their future plans did not or probably did not include college attendance, they were asked to tell why not. Table XXV shows the extent of each reason by percent.

TABLE XXV

PERCENT OF SENIORS WHOSE PLANS "DO NOT"
OR "PROBABLY DO NOT" INCLUDE COLLEGE
ACCORDING TO REASON GIVEN

Reason	Boys	Girls	Both
Tired of school; had enough education	8	5	6
Want to work and make money	26	30	28
Too expensive; can't afford it	15	14	14
Want to get married	4	15	10
Parents object	-	1	.3
College not necessary	1	1	1
Waste of time	1	-	.3
Can't make good enough grades	30	17	23
Other reason	15	19	17

The most prominent reasons given were the desire to work and make money, 28 percent, and inability to make good enough grades, 23 percent. Fourteen percent said college was too expensive, ten percent gave marriage as the reason, and six percent said their reason was being tired of school. One percent regard college as unnecessary, while .3 percent for each reason said their parents object or that college is a waste of time. Seventeen percent indicated "other reason."

There is a difference between boys' and girls' responses worth noting in the reason "Can't make good enough grades;" 30 percent of the boys so indicated as compared to 17 percent of the girls. Forty two percent, or four out of every ten, of youth whose plans definitely or probably will not include college attendance indicated a financial reason.

Effect More Money Would Have on Plans. Since college attendance depends considerably on financial circumstances, and since the objectives of this study are concerned partly with financial inability as an obstacle, seniors not planning college attendance were asked if their plans would change had they more money. Table XXVI shows that of the [illegible] Area seniors not planning college attendance 63, or 15 percent, said they would change plans if they had more money and another 140, 34 percent, said they might. The remaining 207, 51 percent, said more money would not cause them to change plans.

TABLE XXVI

NUMBER AND PERCENT OF SENIORS NOT PLANNING ON COLLEGE WHO WOULD CHANGE PLANS IF THEY HAD MORE MONEY

Would Change Plans	Boys		Girls		Both	
	Number	Percent	Number	Percent	Number	Percent
Yes	34	18	29	13	63	15
No	92	47	115	53	207	51
Maybe	68	35	72	33	140	34

Of all seniors in this study those who said more money would cause them to change their plans constituted 5.5 percent. The 140 who said "maybe" plans would change with more money amount to 12 percent. The two groups added together make a total of 203, or about 18 percent of all seniors.

Of the 203 seniors who indicated their plans would or might change had they more money, 7.5 percent said it would take less than half the expenses, or an amount ranging up to $600. Forty-four percent said they would need an amount large enough to pay half their expenses, and 45 percent said they would need enough to pay all their expenses.

Educational Interests of Youth Whose Future Plans Do Not Include College Attendance. With three choices before them, seniors without plans for college were asked to indicate the type of training, if any, that would interest them provided opportunity were available in the area.

Of these respondents 227, or 55 percent, said they would be interested in the general area of advanced trade, business or semi-professional and technical training. Six percent, or 25 persons, indicated an interest in the first two years of college work of the type that could be transferred to a four-year college or university and 161, or 39 percent, said they would be interested in neither.

From another point of view these seniors without plans for college indicated greater interest in further training locally.

When the choice was basically between a paid type of additional training and self-help programs presently available, the preponderance chose further training on a paid basis, with a substantial decline in the percentage of disinterest indicated above. In Table XXVII one can see that 35 percent of both sexes would be interested in on-the-job training with a company or industrial firm, while an additional 22 percent, 35 percent of the boys and 10 percent of the girls, said they would be interested in working as a paid apprentice. Another 11 percent indicated interest in training in the military service. Twenty-two percent, in contrast to the 39 percent in the paragraph above, said they would be interested in none of the alternatives. This 22 percent was composed of 13 percent of the boys and 31 percent of the girls.

TABLE XXVII

TYPES OF TRAINING OR EDUCATION OF GREATEST INTEREST TO YOUTH NOT PLANNING ON COLLEGE

Type of Education	Percent Boys	 Girls	 Both
Work for several years as paid apprentice to learn a trade	35	10	22
Post-graduate high school work in high school at night	2	4	3
Enter military service for training	16	5	11
On-the-job training with a company or industrial firm	29	41	35
Correspondence study	1	4	2
Adult education classes	4	5	5
None of the above	13	31	22

Educational Plans and Perceived Family Income Status. Another base for viewing financial ability as a consideration in planning college attendance is the respondent's perception of the level of his family's income. In Table XXVIII 28 percent of the seniors not planning college attendance are shown to feel they have necessities or less, while 70 percent feel they are comfortable or better. This "No" group is the only one that shows any substantial difference from any other group, with a ten percent spread among those having the necessities or less ("No," 28 percent and "Probably Not," 18 percent). The spread among those that are comfortable or better is about the same, 12 percent, the extremes being the same groups ("No," 70 percent and "Probably Not," 82 percent). The consistency otherwise indicates that the perceived family income level is not altogether associated with plans for college attendance.

TABLE XXVIII

PERCENT OF SENIORS BY PLANS FOR COLLEGE ACCORDING TO FAMILY INCOME STATUS

Perceived Family Income Status	Plans for College					
	No	Prob. Not	Prob. So	Yes	Don't Know	All Seniors
Frequent difficulty making ends meet	9	1	3	3	4	4
Sometimes have difficulty getting necessities	2	3	3	2	3	2
Have necessities	17	14	13	15	15	15
(Sub-Total)	(28)	(18)	(19)	(20)	(22)	(21)
Comfortable, but not well-to-do	57	72	66	66	69	65
Well-to-do	12	10	12	13	9	12
Wealthy	1	-	1	-	1	.3
(Sub-Total)	(70)	(82)	(79)	(79)	(79)	(77.3)

Perceived Parental Attitude and Seniors' Educational Interests. Previous studies have shown a relationship to exist between attitudes which youth perceive their parents to have about post-high school education and their own plans. Insofar as these perceptions are valid, they also reveal indirectly the quality of moral support likely to exist in a community for programs of education beyond high school.

When respondents' perception is analyzed by their plans for college, Table XXIX, it is evident that the attitude of parents toward continued education for their children is associated with educational plans which youth have. Of those seniors definitely not planning college attendance, none indicated their parents insisted or expected them to attend, while 33 percent of those definitely going to college said their parents insisted or expected them to attend. On the other hand, 39 and 19 percents respectively of those whose plans definitely and probably did not include college attendance reported that their parents didn't care, while only three percent of those with definite plans for college reported this kind of parental attitude. Eighty-six percent of the seniors who don't know whether they will attend college indicated that their parents wanted them to go if they wanted to.

Of all seniors, 17 percent indicated that their parents insisted or expected them to attend college, 68 percent indicated their parents wanted them to go if they so desired. Thus, a high proportion, 85 percent, of the seniors of the Shiawassee-Clinton County Area Study perceive their parents as having a favorable attitude toward continued education.

TABLE XXIX

PERCENT OF SENIORS BY PLAN FOR COLLEGE AND PERCEIVED PARENTAL ATTITUDE TOWARD COLLEGE ATTENDANCE

Perceived Parental Attitude	Plans for College					
	No	Prob. Not	Prob. So	Yes	Don't Know	All Seniors
Insist or expect that I go	-	4	13	33	2	17
Want me to go if I want to	55	74	75	64	86	68
Don't care	39	19	10	3	11	13
Don't want me to go	3	3	2	-	-	1

Relationship of Educational Plans and Educational Level of Parents, School Attendance by Relatives, and Work Status. Assuming that the educational level of parents and relatives has a bearing on the aspirations of these seniors, and that the need to work and/or the satisfaction with present employment is also a factor, questions were included to give an indication of these relationships.

Data in Table XXX shows that there is a direct relationship between seniors' educational intentions and the level of education of parents.

Over 50 percent of seniors definitely not going to college said their mothers had not finished high school compared with 22 percent of those with definite plans for college. On the other hand 76 percent of those with definite plans for college said their mothers had had some form of post-high school training, while 39 percent of those definitely not going to college said their mothers had some such further education.

When seniors' educational intentions were analyzed according to the educational level of relatives other than parents the results were similar to the above. Sixteen percent of those seniors definitely not planning college attendance reported having older brothers and/or sisters who had attended compared to 35 percent of those seniors who were definitely planning to attend. Likewise, 55 percent of the former group reported uncles, aunts or cousins who had attended college compared to 77 percent of the latter group.

Of all seniors, 63 percent reported working part-time while attending high school. Nearly three fourths (74 percent) of the boys and slightly over half (53 percent) of the girls reported working. When analyzed according to plans for college the highest percentages were the "probables," the lowest, the "definites." The percentages of the various groups who worked part-time while attending high school were: Not planning to attend, 60 percent; Probably not, 70 percent; Probably so, 71 percent; and Yes, 57 percent.

TABLE XXX

PERCENT OF SENIORS BY PLANS FOR COLLEGE ACCORDING TO LEVEL OF PARENTS' EDUCATION

Highest Level of Education	Plans for College					
	No	Prob. Not	Prob. So	Yes	Don't Know	All Seniors
MOTHER:						
8th grade or less	20	19	15	8	14	13
Some high school	32	32	21	14	26	21
High school graduate	34	34	44	43	37	40
Business or trade school	2	4	7	7	7	6
Some college	2	3	7	12	4	8
College graduate	1	5	3	14	6	8
Don't know	8	3	3	2	6	4
FATHER:						
8th grade or less	34	28	20	16	27	22
Some high school	27	27	18	14	23	19
High school graduate	21	19	30	33	31	29
Business or trade school	3	7	8	5	4	5
Some college	2	7	10	12	3	8
College graduate	-	3	8	16	6	9
Don't know	12	9	6	5	7	7

Long-Range Occupational Plans of Youth. Since this study was concerned with occupational training, seniors were asked to indicate their first preference for the kind of job which they looked forward to having ten years from now. This was an open-ended question where the respondent was invited to write in an answer rather than to check from a set of possible responses. Responses were then categorized for analysis, and these data are shown in Table XXXI.

The 329 seniors who indicated a profession (other than nursing) as their occupational goal account for 29 percent of all seniors in the study. This group consists of 35 percent of the boys and 23 percent of the girls. The next highest incidence of occupational choice was the Office-Secretarial-Clerical area listed by 156 seniors, or 14 percent, mostly girls. Nursing was indicated by 77 or 13 percent of the girls and 1 percent of the boys. Eleven percent of the boys indicated Factory Foreman or Worker as did one percent of the girls for a total of six percent of all seniors or 65 in number. Other occupational indications range from one to five percent, except for housewife, not necessarily an exclusive occupation. A large number gave no indication, 51 or four percent, didn't know and 75, or seven percent, gave no response. The two latter groups combined total 126, or 11 percent of all seniors.

TABLE XXXI

OCCUPATIONAL ASPIRATIONS OF SENIORS

Occupational Aspiration	Boys	Girls	Both	
	Percent	Percent	Percent	Number
Professional (other than nursing)	35	23	29	329
Nursing	1	13	7	77
Military Service	1	.3	1	10
Office-Secretarial-Clerical	2	25	14	156
Housewife	-	17	9	100
Electronics	3	-	2	19
Selling-Salesman-Waitress	3	1	2	22
Drafting & Building Trades	7	-	3	39
Mechanic or Machine Shop	9	-	5	53
Agriculture and related	6	.3	3	35
Factory Foreman or Worker	11	1	6	65
Airline Pilot or Hostess	1	1	1	10
Art (including commercial)	1	2	2	18
Run own Business	1	-	1	6
Beautician or Barber	1	6	3	39
Religious Worker	.5	1	1	9
Entertainer	.4	1	1	7
Public Service	3	1	2	19
Miscellaneous	1	.2	1	7
Don't Know	6	3	4	51
No Response	7	6	7	75

A cross-check was made of seniors' occupational goals and their future educational plans. Table XXXII shows that of the 329 indicating profession (other than nursing) two percent "Don't know" if they will attend college while 84 percent "definitely plan to" and 14 percent "probably will." On the other hand, in the Factory Foreman or Worker category where further education may not be an entrance requirement, 68 percent indicated they "would not" or "probably would not" attend college compared to five percent who "definitely planned on it," nine percent who "probably would," and 17 percent who "didn't know."

Of the 156 seniors indicating Office-Secretarial-Clerical work as their occupational goal, over 40 percent had definite or probable plans for college as did 51 percent of those indicating Beautician or Barber. Of the 51 seniors who "didn't know," 43 percent have "definite plans for college" while another 16 percent indicated they "probably would attend."

TABLE XXXII

PERCENT OF SENIORS BY OCCUPATIONAL ASPIRATIONS ACCORDING TO PLANS FOR COLLEGE

	Plan for College				
Occupational Aspiration	No or Prob. Not	Prob. So	Yes	Don't Know	Total Number
Professional (other than nursing)	-	14	84	2	329
Nursing	8	23	56	13	77
Military Service	50	30	-	20	10
Office-Clerical-Secretarial	34	19	23	23	156
Housewife	47	13	22	18	100
Electronics	26	53	11	11	19
Selling-Salesman-Waitress	45	14	27	14	22
Drafting and Building Trades	28	36	18	18	39
Mechanic or Machine Shop	30	19	17	34	53
Agriculture and Related	43	11	23	23	35
Factory Foreman or Worker	68	9	5	17	65
Airline Pilot or Hostess	40	30	20	10	10
Art (including commercial)	17	11	61	11	18
Run Own Business	33	17	-	50	6
Beautician or Barber	31	20	31	18	39
Religious Worker	-	11	67	22	9
Entertainer	-	14	57	14	7
Public Service	42	21	32	5	19
Miscellaneous	43	29	14	14	7
Don't Know	24	16	43	18	51
No Response	40	15	28	16	75

Generally, at least some seniors in all job classifications indicate probable or definite plans to attend college, with the exception of Running Own Business and Military Service; and substantial percentages in all but three classifications (Professional; Religious Worker; Entertainer) indicated "definite" or "probable" plans not to attend.

Field of Interest for Further Study. Since occupational aspirations and educational intentions do not necessarily coincide, the seniors were asked to indicate the field of greatest interest to them for advanced technical training or college work if they were planning any. Table XXXIII shows that of all seniors, ten percent were interested in liberal arts, ten percent in teaching, eight percent in secretarial-clerical and six percent in engineering. All other fields listed in the table were indicated to be the first choice of at least two percent of the seniors in each case.

TABLE XXXIII

FIELD OF INTEREST FOR ADVANCED STUDY

Field of Interest for Study	Boys and Girls		Plans for Col. by %			
			Yes		Prob. So	
	Number	Percent*	B	G	B	G
Liberal Arts	120	10	22	20	4	2
Engineering	65	6	20	-	14	-
Business Admin.	45	4	9	2	10	1
Teaching	117	10	12	31	4	7
Medicine	24	2	6	1	3	2
Agriculture & Related	23	2	3	-	5	-
Nursing	39	3	-	11	1	12
Secretarial-Clerical	92	8	1	10	1	26
Laboratory Technician	28	2	2	4	1	6
Mechanical Technology	31	3	3	-	5	-
Drafting, Design, Technology	34	3	4	-	12	-
Skilled Machine Trades	27	2	1	-	5	-
Beautician or Barber	28	2	1	2	-	3
Miscellaneous	38	3	1	3	3	5
Don't Know	27	2	4	3	4	-
No Response	338	30	6	10	15	27

* Percents in this column based on all seniors, not just those planning on advanced study. In addition to fields of interest listed in the table, approximately one percent of the seniors were interested in training for: general business, electronics technology, and building trades.

Of seniors with definite plans for college, over 20 percent plan for a liberal arts education including teaching. A fifth of the boys plan to study engineering, 9 percent want to study business administration, and 12 percent are interested in teaching. Of the girls, 31 percent plan teacher education, 11 percent nursing, and ten percent secretarial-clerical. Of those probably going to college, the boys are most interested in engineering, drafting or design technology, and business administration. The girls' main interests are secretarial-clerical, 26 percent, and nursing, 12 percent with teacher education of interest to 7 percent and laboratory technician of interest to 6 percent.

Seniors' Perceptions of How Well High School Was Preparing Them for Their Future. The adequacy of present education and training being one of this study's concerns, seniors were asked how well they thought their high school was preparing them for what they planned to do after high school graduation. Table XXXIV shows that 53 percent of the seniors felt that their high school preparation had been very good in some ways but could have been better in others. Twenty percent felt their preparation was fair, but could have been better; 16 percent felt that it was just what was needed, and ten percent thought it had not been very good.

TABLE XXXIV

SENIORS' EVALUATION OF HOW WELL HIGH SCHOOL IS PREPARING THEM FOR THEIR FUTURE

Adequacy of Preparation	Percent Boys	Percent Girls	Percent Both
Not very well	11	9	10
Fair, but all training could be better	23	18	20
Very good in some ways, but it could be better in others	51	55	53
It is giving me just what I need	15	18	16

Responses were analyzed by plan for college to determine if seniors with no plans for college attendance would evaluate the adequacy of their preparation differently than those whose plans would definitely or probably include college. Results of this analysis are presented in Table XXXV.

TABLE XXXV

SENIORS' EVALUATION OF HIGH SCHOOL PREPARATION BY PLANS FOR COLLEGE

Adequacy of Preparation	Plans for College (Percent): No		Prob. Not		Prob. So		Yes		Don't Know	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Not very well	16	12	15	12	13	8	8	7	10	8
Fair, but all training could be better	25	17	25	15	25	20	21	19	23	13
Very good in some ways, but could be better in others	39	43	48	59	50	58	57	60	51	56
It is giving me just what I need	20	27	12	15	12	14	14	13	16	23

When this question was considered on the basis of plans for college, the largest percent of (Table XXXV) both boys and girls by each type of plan still regarded their preparation as very good in some ways, but it could have been better in others. Girls generally thought better of their preparation than boys, except for only slight variance among those "definitely going to college" who felt high school was giving them just what was needed, 14 and 13 percents respectively. The largest group who thought their preparation was just what was needed were those not planning college attendance; this same group gave the greatest response to the item not very well prepared. An inconsistency is depicted profiling the group this study is especially concerned to understand. Significantly higher percents of youth with no plans for college felt their high school preparation was not preparing very well than did youth whose plans include college attendance.

Students' Perceptions of Occupational and Educational Guidance Received from High School. Since realistic planning depends to a considerable extent upon informed guidance, seniors were asked to give their own evaluation of the adequacy of the help they received through the schools in occupational and/or educational planning. Their responses appear in Table XXXVI.

TABLE XXXVI

SENIORS' EVALUATION OF AMOUNT OF HELP HIGH SCHOOL GAVE IN OCCUPATIONAL AND/OR EDUCATIONAL PLANNING

Amount of Help Received	Percent		
	Boys	Girls	Both
Little or no help	29	22	26
Some, but not very much	29	34	31
Considerable, but could have used more	29	25	28
A lot of help; all I need	12	18	15

As to the amount of help in occupational and/or educational planning the seniors thought they had received, 31 percent indicated they had received some help, but not much. Fifteen percent said they had received all the help needed. Twenty-six percent felt they had received little or no help, while 28 percent indicated they had received considerable help, but could have used more. Thus it can be seen that 57 percent of all seniors felt they had received some but not very much help or little or no help. Only 15 percent felt they had received all the help needed in occupational and/or educational guidance.

Seniors' evaluations of the amount of help they thought they had received from the high school in occupational and/or educational planning were analyzed according to plan for college attendance.

This analysis reveals the relationship between plan for college and the evaluation given. Girls tended to indicate more satisfaction than boys as shown in Table XXXVII. Observing Table XXXVII it can be seen that of boys whose future plans definitely do not include college attendance, 37 percent felt they had received little or no help, and 21 percent felt they had received some but not very much. The rest of the table is to be interpreted likewise. It can be observed that larger percents of youth whose plans include college thought they had received more help than those whose plans would not include college attendance. Likewise, seniors who felt they had the least help were those whose plans did not include college attendance.

TABLE XXXVII

SENIORS' EVALUATION OF HELP RECEIVED IN PLANNING BY PLANS FOR COLLEGE

Amount of Help Received	Plans for College (Percent)									
	No		Prob. Not		Prob. So		Yes		Don't Know	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Little or no help	37	28	40	18	29	14	26	23	21	23
Some, but not very much	21	39	28	29	29	36	30	29	36	36
Considerable, but could have used more	28	15	25	44	33	38	30	23	30	29
A lot of help, all I need	12	18	8	9	8	9	14	25	14	11

Seniors' Evaluations of the Way Selected Services and Facilities Have Helped Them. Seniors were asked to indicate the way certain selected school services and facilities had helped them. These findings appear in Table XXXVIII by sex. One can observe that of the boys 20, 43, 34 percents respectively felt the provision of someone in whom they could confide about school problems to be "good," "fair," and "poor." The rest of the table is to be interpreted likewise. The largest percentage of respondents rated all but three of the types of services or facilities as "fair." Both boys and girls rated the provision of someone in whom they could confide about personal problems as "poor." A higher percent of girls rated both information about college and social activities as "good" then gave other ratings in these services.

TABLE XXXVIII

SENIORS' EVALUATION OF HOW SCHOOL SERVICES OR FACILITIES HELPED THEM

Service or Facility	Percent-Boys			Percent-Girls			Percent-Both		
	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor
Someone I can confide in about school problems	20	43	34	29	40	29	24	42	31
Library materials and information on vocations	31	48	18	39	44	15	35	46	16
Offering many courses from which to choose	35	41	22	33	46	18	34	44	20
Information on going to college	41	43	12	49	40	9	45	41	10
Social activities	37	48	9	45	40	11	41	44	10
Someone I can confide in about personal problems	10	31	54	15	30	52	12	31	53

A further analysis was made to reveal the relationship between seniors' perceptions of the amount of help received in occupational and/or educational planning and their evaluations of certain selected school services and facilities. This is shown in Table XXXIX where for example in the category of a lot, or all the help needed in occupational or educational planning seniors had three choices about the provision of "someone in whom to confide about school problems." Forty-seven percent said "good," 38 percent, "fair," and 12 percent "poor." This can be compared to the category of little help in this planning where 15 percent regarded this provision "good," 28 percent "fair," and 54 percent "poor."

Generally, the more help seniors felt they had received from the high school, the better they rated various school services and facilities. The less help they had received in planning, the poorer they rated them. One service was rated "poor" by more of all groups, and increasingly so as the amount of help decreased. This was the provision of someone in whom to confide about personal problems. For a lot of help 34 percent rated it "poor;" considerable help: 47 percent "poor;" some help: 57 percent "poor;" and little help: 65 percent "poor." This analysis indicates a positive relationship between evaluations of most service and facilities and the amount of help they felt they had received in making occupational or educational plans.

TABLE XXXIX

PERCENT OF SENIORS BY AMOUNT OF GUIDANCE RECEIVED AND THEIR EVALUATIONS OF HIGH SCHOOL SERVICES AND FACILITIES

Service or Facility	Lot of Help			Considerable			Some			Little		
	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor
Someone I can confide in about school problems	47	38	12	27	48	23	19	50	30	15	28	54
Information on vocations	43	41	14	42	43	13	32	49	17	27	50	20
Wide choice of courses	48	34	16	42	42	13	28	50	20	24	43	29
Information on college	71	21	5	50	43	4	37	47	12	33	44	19
Social activities	54	35	7	46	44	6	40	44	10	29	49	15
Someone I can confide in about personal problems	28	31	34	12	38	47	10	30	57	7	24	65

SUMMARY

1. The vast majority of the 1,146 seniors in the Shiawassee-Clinton County Study are long-time residents. Seventy-seven percent have lived here ten years or more, 86 percent from six to ten years, and 92 percent from three to six years.

2. According to seniors' vocational plans, an Area Vocational-Technical School might apply to about 20 percent of all senior boys and to 31 percent of all senior girls. This was a total of 293 seniors or 26 percent of the total group responding.

3. According to definite and probable plans for college, area facilities for training beyond high school might attract 17 percent of all seniors or 22 percent of the boys and 13 percent of the girls. This group consists of those who intend enrollment in area community colleges, or a college with a vocational emphasis.

4. The majority of seniors have shown financial need and/or vocational-technical interest by way of part-time work while attending high school. Seventy-four percent of the boys and 53 percent of the girls so indicated.

5. About 18 percent of all seniors or 203, said more money would or might cause them to plan college attendance. Forty-five percent of these said they need enough to pay all their expenses, 44 percent, half their expenses ($600), and 7.5 percent, less than half. Twenty-eight percent of those not going to college, or 60 in number, said their family's income provided only the necessities or less, as did 18 percent of those probably not going.

6. Parents in the Study Area generally have a favorable attitude toward continued education--85 percent of all seniors saw their parents either wanting them to go on if they wanted to, or insisting or expecting them to. In contrast, one percent of all seniors said their parents did not want them to attend college.

7. A high correlation exists between the family relatives' level of education and seniors' plans to attend college. Over 50 percent of those definitely not going to college said their mothers had not finished high school, as compared to 76 percent of those with definite plans for college who said their mothers had had some form of post-high school education. The educational experience of near relatives supported the correlation.

8. Of seniors indicating long range occupational interests in the office-clerical-secretarial field and work as a salesman, 34 and 45 percents had no plans for continuing their formal education. This was true for 68 percent of seniors who want to be a factory foreman or worker, 47 percent of girls who hope to be a housewife and 50 percent of boys who expect to enter the military service. Ninety-eight percent of seniors who aspire to one of the professions other than nursing have plans which either definitely or probably include college.

9. While 65 percent of all seniors said they were interested in advanced study in their occupational interest, 78 percent of all seniors indicated occupational aspirations for which there might be some need for further training--49 percent in vocational-technical training areas and 29 percent in professions (other than nursing).

10. Of the 413 seniors without definite or probable plans for college 61 percent, or 252, indicated interest in advanced vocational-technical training or the first two years of college work; 39 percent, or 161, said they would be interested in neither. This latter group shrunk to 22 percent when a paid type of advanced training was put to them; this was composed of 13 percent of the boys and 31 percent of the girls.

11. About 12 percent of the 213 seniors definitely not planning college attendance perceive their academic rank to be in the top third of their class, 52 percent in the middle third and 32 percent in the lower third. Twenty-eight percent said their reason for not wanting to continue their education was their desire to work and make money. Fourteen percent said that college was too expensive, 23 percent gave inability to make good enough grades (almost twice as many boys gave this as girls--30 percent and 17 percent, respectively), ten percent gave marriage as their reason, and the remainder indicated various other reasons.

12. Present high school curriculums show large enrollments in the general curriculum among those unlikely to continue their education. This includes 53 percent of the boys and 31 percent of the girls definitely not planning college, and 84 and 77 percents, respectively, of those probably not going. Among the definitely non-college bound alone the balance was enrolled largely in vocational-technical curriculums with the exception of about five percent who were enrolled in college preparatory, and about six percent responding "other," or giving no response.

13. Sixty-nine percent of all seniors felt their high school preparation was very good in some ways but could have been better in others, or that it was giving them just what was needed. Girls showed a general tendency to have higher regard for their preparation than did boys, as did those seniors definitely not planning college attendance; this latter group, though, also tended to have the lowest regard for their preparation.

14. Fifteen percent of all seniors or 12 percent of the boys and 18 percent of the girls felt they had received all the help needed in occupational and educational guidance. The most satisfied were those planning college attendance--14 percent of these boys and 25 percent of these girls. The least satisfied were those boys probably not planning college attendance, 40 percent of them, and those girls definitely not, 28 percent of them.

15. As to school services and facilities, information on going to college was rated "good" by the most--45 percent of all seniors--while someone to confide in about personal problems was

rated "poor" by the most--53 percent. Other services and facilities were rated "fair" by most. Generally, the more help seniors had received from school services and facilities, the better they rated them; and conversely, the less help they had received, the poorer they rated them.

CHAPTER III

A STUDY OF RECENT HIGH SCHOOL GRADUATES

Introduction. In assessing the educational needs for vocational-technical training a study of graduates' experience and desires is necessary. Assuming the Area graduates of previous years are similar to those who will follow for a few years, considerable confidence can be placed upon them as a source of information. Patterns of occupational and educational pursuits, residential distribution, characteristics and interests are not likely to vary markedly with future groups of graduates, barring a major political or economic change, except in a relatively slow fashion.

Methods of Studying Graduates. Lists of high school graduates were obtained from all high schools in the Area for the years 1960 and 1962. Names were alphabetized by sex and year for each district and a random sample, separated by year, sex and district was selected for contact by questionnaire mailing. Questionnaires were prepared in final form by members of the Citizens Subcommittee on Program Needs after they had contacted their respective high school counselors and principals for suggestions.

During the spring of 1965, approximately 780 questionnaires were mailed to graduates with a cover letter and an enclosed stamped and addressed return envelope. The Shiawassee Intermediate Office of Education assisted in the mailing and acted as the return collection agency for the study. In about three weeks following the initial mailing, a second questionnaire and letter were forwarded to those who had not responded to the first mailing. One hundred and eighteen (118) envelopes were returned for lack of sufficient address. Nineteen were indicated to be not available.

Responses were received from 70 percent of the graduates contacted who were available and for whom addresses were apparently satisfactory. Of these, 36 questionnaires were received too late for tabulation. The analyzed return represented a 22.4 percent random sampling of all seniors graduating during those years. An analysis of nonresponses revealed they were proportionately distributed by sex, year and school district. There is no reason to suspect any bias in responses related to these factors. However, post-high school attendance experience of all schools in the study indicate that between 30 percent and 40 percent of all graduates continue their education the next fall. Of the graduates responding, 60 percent had attended a college or university, business college, a nurses school or a trade or technical school. Either the response to this study is biased in favor of graduates who continued their education or a sizeable group of graduates delay further education beyond following high school graduation. The 60 percent compares exactly to the 60 percent of 1965 seniors whose future plans were found to definitely or probably include further education. The number of graduates (as reported later in this chapter) who were found to be continuing their schooling on a part or full-time basis would seem to lend support to the assumption of little if any bias in favor of those who had continued their education. On the basis of a representative 22.4 percent sample of returns representing 53.3 percent of the total sample selected there is good reason to believe that if responses had been obtained from all seniors since 1960 the responses would have followed a similar pattern. Of all respondents seventy-nine percent said they lived in the study Area, and another 11 percent lived adjacent to it. Fifty-five percent said they have never left the Area and another nine percent lived in the county over three years before leaving. Out migration of youth seems to occur relatively slowly.

The Educational Experience of Graduates After Leaving High School. While about 60 percent of responding graduates reported formal schooling after graduation, the great majority, 84 percent of the 416 men and women have had further training or education of some kind with over 27 percent presently attending a school full- or part-time. Forty-one percent had attended college or a university, about six percent a business college, about three percent a nursing school, and over nine percent a trade or technical school.

Keeping in mind that some graduates have had more than one kind of further education, over 29 percent have had on-the-job training, about five percent have had adult education in the high school, six percent had taken correspondence school work, and about ten percent had had military service school. Over 16 percent reported no additional training or education.

Commuting to school involved 16 percent of those replying; about four percent commuted five miles or less, six percent six-to-twenty miles, and six percent twenty miles or more.

Economic and Occupational Status of Graduates. About 61 percent, 156 men and 100 women, said they were presently employed full-time in a paying job. About 12 percent, 25 men and 23 women, said they were employed part-time. Twenty-five percent, 23 men and 81 women, said they were not presently employed in a paying job, while about two percent, 5 men and 3 women, did not respond to the question.

Where employed in a full-time paying job the gross weekly salary bracket of responding graduates was indicated to be $49.99 or less by about five percent. Over 27 percent, 41 men and 72 women, indicated their weekly salary bracket to be $50 to $99.99. Over 21 percent, 67 men and 25 women, said theirs was $100 to $135.99, and over eight percent, 32 men and 3 women, said theirs was $135 to $159.99. Over four percent said their salary bracket was $160 or more. Monthly salaries earned by 48 percent were less than $544. About 35 percent did not respond to the question.

School Attendance and Interests in Further Education. Graduates who were not in school at the time of the survey were asked the reason of greatest importance. Results are presented in column (1) of Table XL . Observing Table XL it can be seen that 16 men and 9 women indicated they did not have time; this constituted 6 percent of all respondents. From data presented in Table XL it can be determined that 12 percent indicated financial reasons, and over 19 percent identified family responsibilities. Over 8 percent had completed their schooling, 2 percent indicated lack of college preparation in high school or that it was too difficult to make good enough grades. Three percent indicated lack of available opportunity, and 6 percent expressed lack of interest as a reason. Over 5 percent were in the military service and over 15 percent gave "other" reasons.

TABLE XL

REASONS WHY GRADUATES WERE NOT
TAKING FURTHER EDUCATION OR TRAINING,
BY NUMBER OF RESPONDENTS*

(1) Those Presently Not Going to School			Reason for Not Going to School	(2) Those with Definite Interest at Present			(3) Would Have Been Interested in Voc-Tech or Comm. College after H. S. Graduation		
M	W	Both		M	W	Both	M	W	Both
16	9	25	Do Not Have Time	12	7	19	6	2	8
6	6	12	Opportunity Not Available in Community	6	5	11	12	4	16a
26	25	51	Financial Reasons	19	21	40	6	4	10
26	54	80	Family Responsibilities	23	43	66	13	10	23
9	17	26	Not Interested	7	13	20	11	22	33b
13	24	37	Already Completed	3	12	15	5	7	12
3	4	7	Too Difficult to Make Good Enough Grades	2	4	6	3	1	4
7	3	10	Didn't Take College Preparatory Course	7	3	10	1	3	4
22	0	22	Now in Military	14	0	14	5	3	8
28	36	64	Other	10	20	30	7	0	7

*(2) and (3) are not exclusive of each other.

a and b: These totals are inconsistent with those in column (1) because the responses were made in answer to the question based on interest following high school graduation, not "as of the present".

While the numbers presented seem small it must be remembered that they represent only about 22 percent of the graduates for two years. The 51 persons who expressed financial reasons would be increased to 232 persons in the total group for the two years and approximately 464 persons over a four year period. This is a significant number of persons not in school because of financial reasons. About 24 percent of all graduates said they would have continued their education if financial assistance had been available at the time of graduation.

Respondents were asked if they were presently interested in further education or training. These responses were analyzed by reasons given for not going to school and are presented in column (2) of Table XL where it can be seen. For example, the 12 men and 7 women expressing definite interest also indicated the reason they were not in school presently was because they did not have time. Forty, or about 10 percent of all respondents, expressed definite interest and simultaneously indicated financial reasons as the reason of most importance why they were not in school. Sixty-six or nearly 16 percent indicated present interest but family responsibilities as a deterrent.

Presented also in column (3) of Table XL are data showing the extent of interest respondents expressed in having attended a vocational technical or community college program if such had been available at the time of high school graduation. These data are analyzed according to reasons for not attending school at present. Eight respondents or about 2 percent indicated they were not in school presently due to lack of time but would have been interested after graduation in a vocation technical or community college program had it been available. Sixteen or about 4 percent who would have been interested indicated lack of available opportunity in the community as the reason why they were not in school. About 11 percent who would have been interested in further education after graduation now indicate lack of interest and family responsibilities as reasons for not being in school. These data clearly indicate that many persons who for a variety of reasons were not in school at the time of the study would have been interested had opportunity been present at the time of high school graduation.

Possible Influence of Available Opportunity of Plans. About 69 percent of the responding graduates, 286, indicated interest in semi-professional or vocational training in the area, had it been available when they graduated. About 51 percent, 103 men and 110 women, said they might have taken advantage of such an opportunity. About 18 percent, 40 men and 33 women, said they would definitely have taken advantage of such an opportunity. About 28 percent, 58 men and 57 women, said they would not have been interested, and about four percent, 8 men and 7 women, did not respond to the question.

Thirty percent of the respondents, 62 men and 62 women, felt the availability of training or education locally for youth after high school was adequate. About 44 percent, 87 men and 95 women, felt this availability to be fair. Over 24 percent, 56 men and 45 women, indicated the availability was poor. Four men and six women, over two percent, did not respond.

Types of Further Education by Interest. If responding graduates had had an opportunity to attend a school following high school graduation about 34 percent, 77 men and 66 women, said they would have been interested in a trade or vocational school, or a community college. A trade or vocational school would have interested about 25 percent as shown in Table XLI, and a community college would have been of interest to nine percent.

Another 19 percent indicated a four-year college or university would have interested them, and 35 percent already had attended the college of their choice. Five percent said that none of the types of further education would have interested them, and 7 percent did not respond to the question.

TABLE XLI

TYPE OF FURTHER EDUCATION
OF INTEREST TO GRADUATES

Type of Further Education	Total	
	No.	Percent
None	23	5
Trade or Vocational	106	25
Community College	37	9
4 Year College or University	78	19
Have Attended College of Choice	144	35
No Response	28	7

Approximately 56 percent of all respondents expressed interest in further education. Those who did were asked to tell what type they would want. Responses as written by respondents have been organized and are shown in Table XLIa. A number were interested in graduate school and are not included here. The last column contains an estimated number of persons having graduated over the last four years who would be interested in each of the types of education listed. These projections assume that the same proportion of all graduates would have been interested in each of the different types of education as was true of the sample contacted. If this is the case and the response received is representative of all graduates contacted then one may estimate backlog of educational need. One may observe, for example, that there may be 128 persons currently interested in nursing, 218 interested in mechanical or electrical technology, over 500 interested in some form of business education, 90 interested in a trade, etc.

TABLE XLIa

NUMBER HAVING INTEREST IN FURTHER TRAINING

	Men	Women	Total	Projected from last 4 years
Business	24	19	43	390
College	20	8	28	254
Nursing	0	14	14	128
Shop Math	4	0	4	36
Automotive	9	0	9	82
Languages	1	1	2	18
Mechanical or Electrical Technology	24	0	24	218
Bookkeeping-Accounting	2	9	11	100
Teacher's Certificate	4	15	19	172
Metallurgy	1	0	1	8
A Trade	10	0	10	90
Night Courses	1	1	2	18
Beautician	0	4	4	36
Agriculture	6	0	6	54
Social Work	0	3	3	27
Law Enforcement	4	0	4	36
Music	2	0	2	18
Physical Therapy	0	3	3	27
Trucking	1	0	1	8
Police and Forestry	4	0	4	36
Clerk Typist & I.B.M.	2	3	5	46
Art	2	2	4	36
Vocational Training	0	2	2	18

Relationship of Parents' Attitudes and Current Interest in Education. Parental opinion from the graduates' viewpoint generally supports further education. About 78 percent, or 323, said their parents either wanted them to go to college if they wanted to, or insisted that they go. Of the 22 who said their parents insisted that they go, Table XLII shows that 15 and 5 respectively were men and women who attended college. Two were women who had not attended college. Of the 301 whose parents wanted them to go to college if they wanted to, 76 men and 64 women did attend college; 62 men and 99 women did not attend.

About 14 percent, or 60 of the graduates, saw their parents as indifferent or negative. Nine had attended college, while 45 did not. Of those who indicated their parents were opposed to their going to college, three went, and two did not attend. Only one woman indicated her parents would not let her go to college and she did not. Observation reveals that larger numbers of respondents who indicated parents insisted they go had attended a college or university.

TABLE XLII

PERCEIVED PARENTAL ATTITUDE ABOUT FURTHER EDUCATION

Parental Attitude about College Attendance	Attended College or University			Did Not Attend College or University		
	M	W	T	M	W	T
Insisted I go	15	5	20	0	2	2
Wanted me to go if I wanted to	76	64	140	62	99	161
Indifferent	6	3	9	28	17	45
Did not want me to go	2	1	3	0	2	2
Wouldn't let me go	0	0	0	0	1	1
No response	0	0	0	20	13	33

Larger numbers, and consequently percents, who reported parents as indifferent did not continue their education. From these data one can conclude that in the Shiawassee-Clinton Area there is a direct positive relationship between perceived parental attitudes about going to college and whether respondents had, in fact, attended a college or university.

Relationship of High School Curriculum and Type of Further Education. Of the 21 men who followed an industrial arts or vocational education program in high school, 16 reported further education, some of more than one type. Four went on to college or university, 3 had trade or technical training, 7 had on-the-job training, 3 reported having had adult education in the high school, and 6 had had military service school. This may be viewed in Table XLIII. The rest of Table XLIII is to be interpreted likewise.

Of the 85 graduates who reported following a business education or commercial program, two of the ten men attended college, three went to trade or technical school, three had on-the-job training, one had had correspondence school experience, and five had had military service school training. With two of the men reporting no additional training, some of the eight men must have had more than one type of further education. Of the 75 women who followed a business or commercial program, 13 reported college or university attendance, 6 or 7 percent business college attendance, three went to nursing school, two went to trade or technical school, 33 had on-the-job training, eight had adult education at the high school, and four had correspondence school experience. With 19 indicating no additional training, some of the women in Table XLIII must also have had more than one type of further education. It can be determined from data shown in Table XLIII that 76 percent of the men and 57 percent of the women who completed a high school college preparatory curriculum had attended a college or university. About 18 percent of graduates who had taken a college preparatory curriculum attended either a business college or a trade or technical school.

TABLE XLIII

HIGH SCHOOL CURRICULUM AND TYPE OF FURTHER EDUCATION OR TRAINING*

Type of Further Education	Coll. or Univ. Prep.		Business Ed.		Indus. Arts or Voc. Ed.	Home-mkg.	General		Other	
	M	W	M	W	M	W	M	W	M	W
Totals Enrolled	101	92	10	75	21	3	63	29	9	6
Coll. or Univ.	76	52	2	13	4	1	12	4	2	3
Bus. College	5	7	0	6	0	0	0	3	1	2
Nursing School	0	9	0	3	0	0	0	0	0	0
Trade or Tech. School	14	8	3	2	3	0	4	4	3	0
On-the-job training	22	14	3	33	7	1	24	11	1	3
Adult Education	1	4	0	8	3	0	1	0	1	1
Correspondence	4	2	1	4	0	1	7	3	1	1
Mil. Ser. School	12	1	5	0	6	0	14	0	2	0
No Addl. Train.	2	11	2	19	5	2	16	9	1	0

*Some graduates indicated more than one type

Relationship of Vocational Education Preparation and Employment After High School. A large majority of the responding graduates said they did not have vocational preparation for a job after high school. This includes, though, 157 graduates, or 38 percent of all respondents, who said they had other plans. On the other hand, 28 percent, 119, said they did have job preparation in high school. Most of the remaining 34 percent, 140, however, indicated the lack of a vocational education program in their high school, lack of specific occupational course offerings wanted, or lack of seeing the value of such a program as the reason why they did not have vocational education. About 18 percent of graduates who had taken a college preparatory curriculum, attended either a business college or a trade or technical school. About three percent did not respond. About 13 percent, or 54 persons, indicated the absence of a high school education program. About 12 percent indicated lack of specific occupational course offerings which they wanted, and over 4 percent indicated they did not see the value of vocational education.

Perceptions on How Well High School Prepared for College or Employment. Most of those who went to college responding to the question on how well high school prepared them, see Table XLIV, said either very good or fair, 49 percent or 85, and 32 percent, or 55, respectively, of 172 respondents. Sixteen, or 9 percent of them, said their preparation was inadequate and 11, or 7 percent, said it was excellent. Five did not respond to the question.

Of the 244 graduates who entered employment following graduation, 42 percent of them, or 101 appraised their high school preparation as very good, and 22 percent, or 52, appraised it as fair. Eleven percent, or 29, thought their preparation was excellent, while 9 percent, or 20, thought theirs was inadequate. The opinions at both extremes, excellent and inadequate, were greater among these graduates than among those who responded as having had further training or education.

TABLE XLIV

GRADUATES' OPINIONS OF HIGH SCHOOL PREPARATION BY PERCENT

Quality of Preparation	For Coll. by Those Who Attended Coll. By Percent			For Employment by Those Who Did Not Attend College By Percent		
	M	W	Both	M	W	Both
Inadequate	11	7	9	13	4	9
Fair, all could have been better	31	33	32	22	21	22
Very good in some ways; Could be better in others	49	49	49	48	36	42
Excellent	4	10	7	8	15	11
Have not entered	0	0	0	2	8	5
No response	4	1	3	7	16	11

In selecting an occupation a large majority of the graduates, 301, or 72 percent, said their high school was some, or little or no help to them in deciding the occupation they wanted to pursue. Over 45 percent, or 189, said their high school was of little or no help, while about 27 percent, 112, said theirs was of some. but not much help. More men were of this opinion than women; about 51 percent of the men indicated little or no help as compared to 40 percent of the women. Thirty one percent of the men said some, but not much help, as compared to about 23 percent of the women. Ten percent in each category said their high school helped them considerably or a lot, with about twice as many women as men so responding. Thirty women, 15 percent, indicated considerable help, as compared to 13 men, six percent; 13 percent, 27 women, said they had a lot of help, as compared to six percent of the men. About 8 percent of the graduates did not respond to this question.

TABLE XLV

GRADUATES' OPINIONS OF HOW WELL HIGH SCHOOL FACILITIES AND SERVICES SERVE THEM

School Service and Facilities	Men			Women			Both		
	1 G	2 F	3 P	1 G	2 F	3 P	1 G	2 F	3 P
Someone to confide in about school problems	43	86	69	44	67	93	87	153	162
Library materials and information on vocations	73	90	38	92	92	20	165	182	58
Offering many courses to choose from	56	97	48	73	86	44	129	183	92
Information on going to college	82	93	26	90	86	24	172	179	50
Social activities	87	90	20	104	81	17	191	171	37
Someone to confide in about personal problems	19	68	110	28	46	127	47	114	237

1-Good; 2-Fair; 3-Poor.

The preponderance of graduates' opinions about the help of school services and facilities, as shown in Table XLV, was mixed. The one area on which there was majority opinion was assistance with personal problems: 274, or 57 percent, of the graduates indicated this service to be poor, 110 men, or about 53 percent, and 127 women, over 61 percent. Assistance with school problems was also rated poor by more graduates, 162, or 39 percent. Although the largest number and percent of men rated this service fair.

The next highest indicator of general agreement between the sexes was that the number of courses from which to choose was fair. Over 46 percent of the men and about 42 percent of the women gave this evaluation. The availability of library materials was indicated to be fair by about 44 percent of all graduates. Most respondents, 43 percent, rated the availability of information on college as fair, but more women rated this good, than fair. Forty-four percent of the men, though, rated the service fair, as compared with 39 percent, who rated it good.

Social activities was the only service rated good by the largest number of graduates, though, again, more women rated it higher than did men. Fifty percent of the women indicated the service to be good, while 43 percent of the men, rated it fair. Of men, 42 percent, rated it good, while 39 percent of the women, rated it fair.

TABLE XLVI

ORGANIZATIONAL MEMBERSHIPS OF GRADUATES ACCORDING TO FURTHER EDUCATION

Number of Organizations	Attended College or University Percent		Did Not Attend College or University Percent	
	Men	Women	Men	Women
None	25	24	37	38
One	25	27	29	29
Two-Five	46	49	33	33
More than Five	4	0	1	0

Relationship of College Attendance and Civic Participation. Most of the graduates belong to one or more local organizations, (see Table XLVI), with those who attended college or university showing a much greater tendency to belong to two or more and a much smaller tendency to belong to none. For instance, 46 percent of men graduates who attended college indicated that they belonged to two or more local organizations, and four percent belonged to five or more. Of men graduates who did not attend college, 33 percent belonged to two or more organizations, and one percent belonged to five or more. Twenty-five percent of the men who attended college belonged to one organization as compared to 29 percent of the men who did not attend college. Twenty-five percent of the men who attended college belonged to no organization as compared to 37 percent of the men who did not attend college. Thus, civic participation was found to be directly and positively related to amount of education.

SUMMARY

Data obtained from a study of graduates may be summarized as follows:

1. Seventy-nine percent of the 416 respondents are Area residents. While sixty percent indicated formal schooling beyond high school, 84 percent indicated some type of additional training or education. Sixteen percent said they were presently commuting to school.

2. About 62 percent of the respondents indicated present employment in a full-time paying job, with about half making more than $100.00 per week, and half making less.

3. Of all respondents 12 percent indicated their reason for not going to school to be financial, 3 percent indicated lack of available opportunity, and 2 percent, lack of college preparation in high school. Twenty-four percent indicated they might have continued education if financial assistance had been available.

4. About 78 percent of graduates believed their parents either wanted them to go to college if they wanted to, or insisted that they go.

5. About 70 percent, or 286 graduates, indicated they would have been interested in semi-professional or vocational training in the area, had it been available when they graduated. About 34 percent, 145, said they would have been interested in attending a trade or vocational school, or community college if they had had the opportunity following high school graduation.

6. The large majority of graduates from all curricula but homemaking, have had further training or education of some kind. With the exception of those in a college preparatory curriculum who went on to college, at least an equal number, had on-the-job training.

7. Present interests of graduates would indicate the need for educational programs in business education, law enforcement, liberal arts, pre-teaching, automotive technology, nursing, trade apprenticeship training, mechanical technology, agriculture, and electrical technology.

8. About 13 percent of the graduates indicated the reason they did not have high school vocational education to prepare for a job was the lack of vocational education offerings in the high school. Twelve percent indicated the specific occupational course desired was not offered, and about 5 percent indicated they did not see the value of such a program.

9. About 81 percent of the graduates who went on to college said their high school preparation was very good, or fair, as compared to 64 percent of those who entered employment who said their high school preparation was very good or fair. A larger proportion of those who entered employment indicated their high school preparation to be excellent than did college enrollees.

10. About 72 percent of the graduates felt their high schools gave them "some but not much", or "little or no help" in selecting an occupation.

11. The largest proportion of graduates felt their high school services and facilities were "fair": library materials and information on vocations, offering many courses to choose from, and information on going to college were so designated. Social activities were rated "good" by more graduates, while someone to confide in about school problems, and someone to confide in about personal problems were rated "poor".

CHAPTER IV

A STUDY OF PARENTS OF FIFTH GRADERS

Introduction. As the Youth and Adult Sub-committee proceeded to gather information and opinions from residents of the Study Area, they were faced with choosing a segment of the adult population not including the 1965 graduates or the graduates of 1960 and 1962. The committee selected the "parents of fifth graders" to be the sample group. A questionnaire was prepared by the committee with the consultation of Dr. Raymond Young of the University of Michigan. These questionnaires were sent home with the students in November, 1965. Out of an approximate 1,700 students enrolled in the fifth grades of the Study Area public schools, the committee received 1,034 responses which were coded and processed through the computer of Power Control Division of Midland-Ross Corporation in Owosso. An additional 42 questionnaires were returned too late for inclusion in the computer results.

As in all previous surveys of this Study, every school district is represented in the results of this questionnaire. A breakdown of the 1,034 responses by schools indicated that Owosso represented 29.8 percent of the responses, Durand 13.9 percent, Corunna 13.1 percent, Ovid-Elsie (combined) 12.7 percent, St. Johns and Perry 8.2 percent each, Byron 4.3 percent, Laingsburg and Morrice 3.8 percent each, and New Lothrop 2.0 percent. The St. Johns response is not as high as on the previous surveys because only the parents of children in the fifth grade rooms of the district were queried. Parents of those fifth graders attending the thirty-two multi-graded rural school rooms were not surveyed.

The information provided by the questionnaire will be presented in three sections: (1) Characteristics of Survey Group; (2) Parents' Assessments and Expectations; and (3) Interest in Vocational-Technical-Educational Programs.

SECTION I - CHARACTERISTICS OF THE SURVEY GROUP

Several of the questions asked in the questionnaire were designed to provide indications of the background of the parent group selected. Among the first indicators was evidence of sex of the person answering the survey. Any masculine or feminine bias seems to be improbable as 49.7 percent male and 50.3 percent female respondents were indicated.

Mobility of Parents of Fifth Graders. One of the indicators of stability of population is the length of residence in the Area demonstrated by individuals in the population. As has been demonstrated by previous surveys in this study, the Clinton-Shiawassee Area is characterized by this stability. As is indicated in Table XLVII, 72 percent of the group surveyed have lived in the Area more than ten years and 82.5 percent have been residents more than five years. Thus, 8 out of 10 families have resided in the Study Area more than five years. If the pattern of population stability continues as it is at the present, then 8 out of 10 of the fifth graders referred to in the query may be in the Area schools as seniors in seven years.

TABLE XLVII

LENGTH OF TIME PARENTS HAVE BEEN IN STUDY AREA

Length of Time	Number of Respondents	Percent
Less than One Year	53	5.1
One to Five Years	123	11.9
Five to Ten Years	109	10.5
Over Ten Years	744	72.0
No Answer	5	.5
Total	1,034	100.0

High School Attended. The parents were asked to assess certain aspects of the high school program. It is realized that these assessments of the high school could be derived from many forms of contact with the school. For example, a parent may be acquainted with the local high school program through visits to the school, listening to neighbors' reactions, having older children attending the school, or having attended the high school himself. The committee sought to determine how many parents were products of the high schools in the Shiawassee-Clinton Area. This information is presented in Table XLVIII.

TABLE XLVIII

HIGH SCHOOL ATTENDED BY PARENTS OF FIFTH GRADERS

High School Attended	Number of Respondents	Percent
High School in Shiawassee County	382	36.9
High School in St. Johns, Ovid-Elsie	122	11.8
A High School Not in the Study Area	397	38.4
Did Not Attend High School	116	11.2
No Answer	17	1.6
Total	1,034	99.9*

*Total as produced by computer is rounded to the nearest tenth of a percent in this and all tables following.

It may be observed that 504 or 48.7 percent of the respondents attended Study Area high schools. Of special interest is the 38.4 percent indicating attendance at "A High School Not in the Study

Area." The figure reveals that although 72 percent of the population has lived here ten or more years (Table XLVII) this group is not necessarily comprised of life-long residents.

Educational Status of Parents of Fifth Graders. According to many educational studies over the past thirty years, there is a close relationship between the educational attainments of parents and their plans and aspirations for the education of their children. In general, parents seem to be more concerned and aware of the importance of education in our complex society. It is also evident that the educational level of training for many jobs is rising and that the percentage of jobs in technical and skilled areas are increasing rapidly. The level of educational attainment of fifth grade parents is summarized in Table XLIX.

TABLE XLIX

EDUCATIONAL STATUS OF
PARENTS OF FIFTH GRADERS

School Level	Fathers		Mothers		Both	
	Number	Percent	Number	Percent	Number	Percent
Elementary School (K-8)	343	33.2	192	18.6	535	25.9
High School (9-12)	443	42.8	628	60.7	1,071	51.8
Some College	134	13.0	119	11.5	253	12.2
College or University Grad.	73	7.1	55	5.3	128	6.2
No Answer	41	4.0	40	3.9	81	3.9
Total	1,034	100.1	1,034	100.0	2,068	100.0

As is indicated by Table XLIX, 76 percent of the fathers and 78.6 percent of the mothers, or 77.7 percent of both, have no formal education beyond high school. It is interesting to note that 60.9 percent of the respondents expect their son or daughter to attend a trade-technical-vocational school, community college, or college after graduation from high school. (This information will be presented in detail later in this chapter.) The one limitation in the question as designed was that it did not allow for a designation of grade level completion or post-high school trade or vocational training. The information does allow the observer to draw a general profile of the educational status of these parents.

Location of Employment for Head of the Household. An important and rather obvious aspect of the Area employment picture is the fact that many residents commute to jobs outside of the Study Area. Using the fifth grade parents as a sample, an approximation of the extent of commuting workers was computed. Along with the general information "how many? " an attempt was made to determine which localities outside the Study Area drew the largest portion of the work force. This information deals only with the employment of the "head of the household" and does not include supplemental employment of the spouse or young adults living with parents.

TABLE L

LOCATION OF EMPLOYMENT
OF PARENTS OF FIFTH GRADERS:
HEAD OF HOUSEHOLD

Location of Employment	Number	Percent
Shiawassee-Clinton Area	555	53.7
Flint Area	228	22.1
Lansing Area	176	17.0
Other	70	6.8
No Answer	5	.5
Total	1,034	100.1

Slightly over half of the respondents work in the Study Area, while 45.9 percent commute to other localities. These figures indicate that any future consideration of vocational-technical programs should include the employment needs of the major areas, Flint and Lansing, as well as local needs.

Type of Employment for the Head of the Household. In addition to the location of employment the committee deemed it desirable to determine the proportion of employed in each of four general categories: (1) Self-employed; (2) Wage or salary workers; (3) Unemployed; or (4) Attending school or in training. The responses to this item are reflected in Table LI.

TABLE LI

TYPE OF EMPLOYMENT
FOR THE HEAD OF THE HOUSEHOLD

Type of Employment	Number	Percent
Self-employed	191	18.5
Wage or Salary Worker	817	79.0
Unemployed	18	1.7
Student or Trainee	2	.2
No Answer	6	.6
Total	1,034	100.0

The preponderance of heads of household represented here are Wage or Salary Workers (79.0%). The percentage of unemployed (1.7%) is just about the figure given for the Area by M.E.S.C. office at the present time. Any vocational-technical programs developed will tend toward training in the "wage or salary worker" category and will strive to maintain the low percentage of "unemployed" or reduce it further.

SECTION II - PARENTS ASSESSMENTS AND EXPECTATIONS

As a means of developing a frame of reference, the parents were asked to indicate their expectations or plans for their fifth grade child immediately following his or her graduation from high school. It was fully realized that many, if not most, of the parents have not examined this question fully. Many expressed the fact that the ultimate decision will be that of the child himself. The question was asked, however, to provide the parent with a reference point for assessing current school practices and programs.

In answering the question "What do you expect your fifth grade son or daughter to do the next year after leaving high school?" the parent was provided with six alternatives: (1) Go to work, (2) Enter military service, (3) Attend a trade-technical or vocational school, (4) Attend a two year community college, (5) Attend a four year college or university, and (6) Don't know. Table LII shows the number of responses to each answer and the percent of the total group of respondents this represents.

TABLE LII

PARENT EXPECTATIONS FOR THEIR FIFTH GRADE CHILD

Expectation	Number Responding	Percent
Attend a four year college or university	371	35.9
Attend a trade-technical, or vocational school	132	12.8
Attend a two-year community college	126	12.2
Go to work	61	5.9
Enter military service	24	2.3
Don't know	309	29.9
Did not answer	11	1.1
Total	1034	100.1

As may be observed on Table LII, 69.1 percent of parents responding attempted to indicate some plan or expectation. Of this group, 258 parents selected areas of training which are post high school but less than a baccalaureate degree program. Some of the parents probably chose the community college program with a transfer to a four year institution in mind. However, a portion of the students this category represents will probably enroll in terminal courses of a vocational nature. It seems important to note that 25 percent of the parents responding chose the community college or trade-technical or vocational types of programs.

Assessment of High School Preparation. Having asked parents to indicate expectations, the questionnaire next requested that they evaluate the present school programs in light of those expectations. The parents were asked, "In your opinion, how well do you feel the high school will prepare your fifth grade son or daughter to do what you expect him to do after leaving high school?" The responses given are reflected in Table LIII.

TABLE LIII

PARENTAL ASSESSMENTS OF SCHOOL PROGRAMS

Assessments	Number Responding	Percent
Not very well	49	4.7
Fair, but all training could be better	164	15.9
Very good in some ways, could be better in others	378	36.6
It is giving me just what is needed	133	12.9
Don't know	273	26.4
No answer	37	3.6
Total	1,034	100.1

As possible answers "Not very well," "Fair, but all training could be better," "Very good in some ways, could be better in others," and "It is giving me just what is needed," are assumed to range along a four phase continuum (negative, slightly negative, slightly positive, and positive.) Table LIII demonstrates that, of those expressing an opinion about present school programs, 511 parents (49.5 percent of all respondents) have positive opinions while 213 parents (20.6 percent of the total) expressed negative feelings. As the information of this table is an assessment by all parents, regardless of expectations, it was decided that a further correlation be drawn with regards to the parental expectations expressed in Table LII. Table LIV indicates the percentage of parents, in the respective expectation categories, who assessed the present programs at each of four levels of adequacy. Also included are the percentages of parents answering "Don't know" or not answering at all.

TABLE LIV

THE RELATIONSHIP OF PARENTAL EXPECTATIONS TO PARENTAL ASSESSMENTS OF PRESENT PROGRAMS

Assessments of Present High School Programs	Parental Expectations Attend a 4-year col. or univ.	Attend a trade tech. or voc. sch.	Attend a 2-year comm. col.	Go to work	Enter mil. serv.	Don't know
Not very well	5.1%	7.6%	2.4%	8.2%	--%	3.6%
Fair, but all training could be better	14.0	18.2	17.5	21.3	16.7	15.5
Very good in some ways, could be better in others	42.0	38.6	42.1	36.1	37.5	26.9
It is giving me just what is needed	14.3	11.4	11.9	13.1	8.3	12.9
Don't know	21.8	17.4	21.4	21.3	37.5	38.2
No answer	2.7	6.8	4.8	--	--	2.9
Total	99.9%	100.0%	100.1%	100.0%	100.0%	100.0%

One can observe in Table LIV that of those parents who expected their child to attend a four year college or university following high school, 5.1 percent thought the high school was not preparing him very well; 14 percent answered "Fair, but all training could be better," 42 percent answered "Very good in some ways, could be better in others," and 14 percent felt it was giving just what was needed.

From Table LIV, one may observe that the parents indicating "Go to work" reflected a higher percentage in the two more negative assessments, ("Not very well" - 8.2 percent and "Fair, but ..." 21.3 percent), while those indicating the community college expectation demonstrated a more positive assessment ("Very good ..." 42.1 percent) and the parents indicating four year college were most positive ("It is giving ... needed" 14.3 percent).

The total percent of positive assessments (slightly positive and positive) are highest for parents who expect their child to attend a four-year college or university (56.3 percent), and to attend a two-year community college (54 percent). Conversely, the total percentages of negative assessments are highest for parents who expect their child to work (29.5 percent) or to attend a trade-technical-or vocational school (25.8 percent). Interestingly, the parents indicating "Don't know" as the category of expectation exhibited a high percentage (38.2 percent) for the answer "Don't know" in assessing present programs.

Guidance and Counseling Programs. Parents were asked, how helpful in their opinion had the local school guidance and counseling program been in assisting students to make educational and occupational plans. This question had inherent limitations due to the varying degrees of contact and knowledge parents might have of current high school programs. This very limitation is pointed out by the large number, 392 parents (37.9 percent) who answered "Don't know." In answer to the item, 118 parents (11.4 percent) said "Very helpful," 344 (or 33.3 percent) said "Helpful," while 128 (or 12.4 percent) said "Little or no hlep." Fifty-two parents did not respond.

Financial Support for Future Training. Finances are an integral part of planning for education or training beyond high school. Since this is sometimes the factor which determines whether a child may go on or must stop, the following question was included in this parental survey. "Insofar as your current plans indicate an interest in college level education and training for your child, please check the item which best describes the current status of your planning to finance his (her) college education and training?" The responses are revealed in Table LV. It can be seen that 277 respondents, or about 27 percent had no financial plans at present.

TABLE LV

PARENTS' PLANS FOR FINANCING
FUTURE EDUCATION FOR THEIR CHILD

Financial Plans	Number of Respondents	Percent
No plans at present	277	26.8
Am leaving it up to the child	51	4.9
Have a definite educational savings program	176	17.0
Will help the child work his way through	405	39.2
Expect child to win scholarship	13	1.3
Expect child to get training at gov't. expense (Military Service)	2	.2
Other	40	3.9
No answer	70	6.8
Total	1,034	100.1

As indicated by Table LV, the largest number of parents (405 or 39.2 percent) showed a willingness to "Help the child work his way through" while an additional 176 parents (17.0 percent) "Have definite educational savings programs."

SECTION III - INTEREST IN VOCATIONAL-TECHNICAL-EDUCATIONAL PROGRAMS

One of the major purposes of the Parent Questionnaire is to survey a sample of the Area adult population with regards to interest in development of a vocational-technical-educational program. This section of the report will deal with three specific areas: (1) Parents' opinions on the relationship of vocational-technical-educational program to the "drop out" problem; (2) Parents' interest in specific types of training programs; and (3) Parents' views of the best solution for providing vocational-technical-educational programs.

Parent Opinions on the Relationship of Vocational-Technical-Educational Programs to the "Drop Out" Problem. In the questionnaire, parents were asked two specific questions dealing with the school "drop out" problem. They were asked if they were concerned about the high school "drop out" problem. Affirmative responses were given by 856 parents (82.8 percent) as opposed to 93 "no" answers (9 percent), with 85 parents (8.2 percent) not expressing any opinion. Most parents seemed personally concerned.

The parents were then asked, "Do you think that expanding the vocational opportunities in high school would keep more students in school longer?" The "yes" answers were again in the majority, 721 (or 69.7 percent) of the parents, as compared to 114 (or 11 percent) negative answers. One hundred ninety-nine (19.2 percent) did not answer the question.

Parent Interest in Specific Training Programs. Any program developed as a result of this study, may include post-high school opportunities. This group of parents was asked several questions regarding their own interest in educational programs. The first of these questions asked parents, "In what additional education, if any, would the heads of the household be most interested?" The respondent was asked to indicate the interest of husband and wife separately. Table LVI portrays the responses.

TABLE LVI

PARENTS' INTEREST IN ADDITIONAL EDUCATION FOR THEMSELVES

Responses	Husband		Wife		Both	
	No.	Percent	No.	Percent	No.	Percent
None	283	27.4	293	28.3	576	27.9
Work on college degree	36	3.5	65	6.3	101	4.9
Courses to prepare for entering a different type of work	119	11.5	105	10.2	224	10.8
Courses for upgrading and improvement in my present line of work	249	24.1	111	10.7	360	17.4
Courses of general self-improvement	155	15.0	281	27.2	436	21.1
Others	26	2.5	36	3.5	62	3.0
No answer	166	16.1	143	13.8	309	14.9
Total	1,034	100.1	1,034	100.0	2,068	100.0

In the data of Table LVI, those husbands interested in additional education seemed most interested (24.1 percent) in "Courses for upgrading and improvement in my present line of work," while wives supported the "Courses of general self-improvement" most heavily (27.2 percent). The two responses most closely allied to the province of this study are "Courses to prepare for entering a different type of work" and "Courses for upgrading and improvement in my present line of work." These two responses garnered 35.6 percent support from husbands, 20.9 percent from wives, and 28.2 percent from both.

The parents were next asked, "If quality vocational-technical programs were available to you near your home, on what basis would you be interested in taking advantage of this kind of training?" The responses to this question were: "Not interested" - 274 or 26.5 percent; "Would be interested in an evening program" - 555 or 53.7 percent; or "Would be interested in a day program" - 112 or 10.8 percent.

The parents were then presented with a list of thirty-eight different vocational-technical-educational training areas. They were asked to designate first, the areas of interest to them and secondly, the area in which they would encourage their child to participate. The items were tabulated for the two responses, thus the percentage of the 1,034 respondents will show how many selected the area but will not distinguish between parents' interest or his interest for the child's vocational training. These data indicate interests in business education, nursing, automotive technology, mechanical technology, electronic technology, medical technology, drafting, data processing, apprenticeship education, welding and machine shop.

TABLE LVII

SPECIFIC INTEREST AREAS
AS INDICATED BY PARENTS
OF FIFTH GRADERS (N=1,034)

Area of Interest for Study	Percent	Area of Interest for Study	Percent
Secretarial & Stenographic-clerical	26.4	X-Ray Technician	9.5
Nursing	23.5	Building Trade	9.4
Human Relations	21.0	Medical Technology	8.9
Homemaking	20.4	Mechanical Technology	8.8
Business Machine Operation	17.8	Retail Selling-Salesmanship	8.7
Accounting	15.8	Dental Technology	8.7
Music	14.9	Radio-Television Technology	8.5
Automotive Maintenance and Repair	13.0	Architectural Drafting	6.9
Electronic Technology	13.0	Agriculture	6.6
Machine Tool	11.9	Appliance Repair	6.5
Welding	11.9	Banking	6.5
Laboratory Technician	11.6	Food Service	6.5
Hospital Aides	11.5	Chemical Technology	6.3
Woodworking	10.9	Automotive Technology	5.8
Data Processing (Electronics)	10.1	Refrigeration & Air Conditioning Technology	5.2
Drafting	9.6	Not Interested	11.5

Attitudes about Providing Occupational Education. Parents were asked if in their opinion there was need for offering additional vocational programs on the high school level in the Area. A third responded, "Yes, many." Twenty-seven percent thought a few were needed, and 7 percent thought none were needed. About 3 of every 10, 29 percent, didn't know. They were asked to indicate which of several alternative courses of action would be best to provide increased numbers of vocational programs along with additional buildings and equipment which might be needed. The results are presented in Table LVIII and show that while 26 percent didn't know and about 15 percent would not favor any expansion which would increase taxes, nearly a third expressed a favorable view toward a cooperative arrangement and the levying of a tax for the purpose. Twenty-two percent felt that the matter should be left to each school district in accordance with its ability and desire to raise taxes for the purpose.

TABLE LVIII

THE COURSES OF ACTION CONSIDERED BEST BY PARENTS OF FIFTH GRADERS

Courses of Action	Number	Percent
I do not know	268	25.9
No expansion should be undertaken which would require additional taxes.	151	14.6
Each school district should establish additional programs and expand existing facilities in accordance with their ability to raise taxes for that purpose.	230	22.2
The ten school districts in the Shia-Clinton Area should cooperatively develop an expanded vocational-technical program supported by a tax levy on the entire Area.	333	32.2
Did not answer or answered two items.	52	5.0
Total	1,034	99.9

SUMMARY

Data obtained from parents of children in the fifth grade seem to warrant the following:

1. Data from the parental questionnaire concur with the findings of the surveys previously presented. The initial findings portray general characteristics similar to those of high school seniors in 1965 and the graduates of 1960 and 1962. The survey found that 72 percent of the parents of fifth graders lived in the Area at least ten years and 48.7 percent of the parents attended Area high schools. In viewing the employment pattern, it was found that 53.7 percent are employed within, while 45.9 percent commute to jobs outside the Study Area. The survey also discovered that 79 percent of the parents were wage or salary workers.

2. The parents were asked to express their present post-high school expectations for their son or daughter. Approximately one-third indicated they expected the child to attend a four year college or university, while one out of four parents selected advanced training of less than a baccalaureate degree.

3. The questionnaire sought the opinions of parents on several items regarding the development of vocational-technical education programs. Almost 70 percent of the parents thought such a program "would keep more students in school longer." When asked, "If quality vocational programs were available....., would you be interested...?" 63.8 percent of the parents indicated an interest in either a day or evening program.

4. When asked whether there was a need for offering additional vocational programs 59.5 percent said "yes," while 29.2 percent "Didn't know." Further, the survey demonstrated that 32.2 percent favor a cooperative effort by the ten school districts in the Study to provide additional educational programs, 22.2 percent advocate expansion within each separate school district, and 25.9 percent "Don't know" what would be best.

5. Interest areas for study identified by parents would seem to indicate need for educational programs in general self improvement and job upgrading, nursing, business education, automotive technology, drafting, data processing, welding and machine shop, apprenticeship education, medical technology, mechanical technology and electronic technology.

6. Parents of children for whom the expectation is work or a trade or technical school feel the high school is not preparing Youth as well for what they plan to do after graduation as parents of children for whom the expectation is college or university or community college.

CHAPTER V

BUSINESS AND INDUSTRY SURVEY

Introduction. The Vocational Education Act of 1963 specifically provided for the involvement of employers in developing programs for occupational training. To better assess the needs of the Area, the study committee surveyed the local businesses and industries through the use of a questionnaire.

Firms included in the survey were selected through four different processes. First, through the Michigan Employment Security Commission Office in Owosso those Shiawassee County firms which participate in the Michigan Unemployment Insurance Plan were selected. Secondly, firms who were members of the St. Johns Chamber of Commerce were included. Study committee members from St. Johns reviewed the index of firms to avoid omissions. Thirdly, Ovid and Elsie were included by listing firms from their telephone directories. The fourth process of selecting businesses resulted from cooperation with another study being conducted in this Area. This cooperating study came about through a local agricultural council consisting of representatives from the County Extension Office and the teachers of vocational agriculture of Byron, Corunna, Durand, Elsie, Laingsburg, Morrice, New Lothrop, Ovid, Owosso and Perry High Schools. The council was attempting to survey the employment opportunities in agriculture or agriculturally related businesses. As the members of the agricultural committee interviewed employers for their study, the questionnaire of the Vocational-Technical Study Committee was presented with an addressed envelope for its return.

Contact with 500 firms through the four processes produced responses from 253, slightly over a 50 percent return. The responses from firms with 40 or more employees was 32 out of a possible 39 reflecting an 82 percent return. The most limited response occurred in contacting smaller firms, 10 or fewer employees. Many of this latter group responded with the statement that they were too limited in size to appropriately respond. In many instances an additional contact with these firms resulted in obtaining the completed questionnaire.

The firms responding to the questionnaires were asked to select categories which best described their business activities (each firm was encouraged to indicate the various facets of its enterprise by marking all categories which were considered to be descriptive of the operation). Table LIX indicates the variety of activities in responding firms.

TABLE LIX

ACTIVITIES OF FIRMS RESPONDING TO THE BUSINESS & INDUSTRY SURVEY*

Activities	No. of Responses	Activities	No. of Responses
Agriculture Service	25	Insurance	5
Advertising	4	Printing and Publishing	5
Automotive Service	17	Real Estate	5
Banking & Finance	11	Retailing - other than food, dairy & drink	43
Communications	2	Service Establishments	19
Construction	19	Transportation	3
Entertainment and Recreation	10	Utilities	3
Food, dairy & drink	29	Wholesaling	1
Government	2	Miscellaneous	2
Health, hospital medical & dental	13		
Hotel - Motel	2		
Industrial and Manufacturing	30		

*Many smaller firms did not respond to the question as is reflected in this table.

From this portion of the study, some guidelines for vocational-technical education can be established. However, as expected, some further investigation will be necessary to develop programs to meet these guidelines. As previously mentioned, a most important provision of the Vocational-Technical Act is the establishment of an Advisory Committee of business and industry personnel within the Area. Its responsibility would be to create and develop programs and maintain a direct relationship between the training facility and the ever changing needs of Area business and industry. Advisory Committees organized of knowledgeable persons in specific areas would determine the specific nature of programs in areas for which this study produced general clues as to program need.

SECTION I - EMPLOYER OPINIONS AND EMPLOYMENT PATTERNS

To determine the opinions and discover some of the employment patterns of area firms, each respondent was asked to react to a multi-dimensional questionnaire. Items dealt with three basic factors: (1) Assessment of present preparedness for employment; (2) Present employment patterns, and (3) Interest in developing occupational education programs. (Several questions were constructed to provide data on both opinions and patterns.) All firms did not answer every question. Comparisons and percentages will be drawn from respondents to the particular question. Large firms will refer to employers of 40 or more persons and small firms to less than 40 throughout the remainder of this report.

Assessment of Present Vocational Preparedness Training. In a direct manner employers were asked, "To what extent do existing educational facilities in the Shiawassee-Clinton Area meet the occupational and training needs of your company or firm?" The responses were as follows:

	Large Firms	Small Firms	Total
Very well	5 (16%)	20 (15.4%)	25 (15.4%)
Fairly well	19 (59%)	64 (49.2%)	83 (51.3%)
Poorly	8 (25%)	46 (35.4%)	54 (33.3%)
Total:	32	130	162

The question asks about the school training as it prepares the student for work in the particular firm. It does not ask for a judg ment of the overall school program. The responses appear related to the college preparatory emphasis in Area schools as noted in the chapter on High School Seniors. It can be seen that a third of the respondents indicated existing educational facilities did poorly in meeting the occupational and training needs of their firms, while 51 percent indicated "fairly well," only 15 percent of all firms indicated existing facilities did "very well" in meeting the occupational and training needs of their firms.

As a means of further assessing present training needs for occupational education, employers were asked to indicate practice in the employment of persons with different amounts of education. One hundred-sixteen small firms and 29 large ones responded. First, the respondent was asked about the employment of non-high school graduates. Non-high school graduates were reported to perform satisfactorily in the following types of jobs:

a. Assistant to receptionist
b. Bulldozer operator
c. Clerical - cleaning
d. Handle parts
e. Linoleum layers
f. Plastering
g. Sales and Service
h. Soda fountain clerks
i. Stock handling
j. Tractor driving

Of the total number of respondents, a fourth of the small firms and nearly a fourth of the large firms indicated they would employ non-high school graduates for these relatively unskilled types of work. (These findings are presented in Table LX.) On the other hand 30 percent of all firms indicated they had employed a number of young non-high school graduates but found that they needed a considerable amount of additional education and/or training before they could perform satisfactorily. Shown in Table LX are the percents of respondents from different size firms according to opinion expressed about high school graduates and non-graduates. For example, it can be seen that 24 percent of respondents from large firms and 25 percent from small ones, or a fourth of both, indicated that non-graduates can perform satisfactorily. The remainder of the table is to be read in like fashion.

TABLE LX

EMPLOYABILITY OF HIGH SCHOOL GRADUATES AND NON-GRADUATES BY FIRM SIZE

Employer Opinions	Percent by Size of Firm		
	Large	Small	Total
Non-Graduate			
Can perform satisfactorily	24	25	25
Need much additional training	24	31	30
Unsatisfactory for employment	52	44	46
High School Graduate			
Well prepared for entry employment	43	34	35
Need much additional training	47	31	34
Suitable in only unskilled jobs	10	12	12
Virtually unemployable	0	23	19

Of the small and large firms, 44 and 52 percents respectively found that young non-high school graduates were unsatisfactory for the following reasons:

a. Don't care enough to learn about their job
b. Expect too high pay for unskilled labor
c. Have not completed any bookkeeping
d. Lack basic education in spelling and simple math
e. Poor risks for even semi-skilled labor
f. Reading, writing, and arithmetic
g. Unable to figure, usually cannot work without supervision
h. Working because of money, not because they enjoy it

Of all employers contacted, 161 responded to the question about employment practices and experience in employing high school graduates. Of all firms responding, 35 percent, or 34 and 43 percents respectively of small and large firms, indicated that most young high school graduates who apply for employment seem reasonably well prepared for entry employment and they had employed them as openings occurred. Thirty-one percent of the small firms and 47 percent of the large ones, or a total of 34 percent of all firms, indicated that, while they had employed a number of young high school graduates, graduates employed needed a considerable amount of additional education and/or training before they could perform satisfactorily. Twelve percent of all firms had found it inadvisable to employ young high school graduates except for unskilled jobs. None of the large firms and 23 percent of the small ones indicated that the nature of most entry jobs was such that young high school graduates were virtually unemployable due to lack of occupational training.

Employment Practices for Different Job Categories. An attempt was made to determine the general type of entry job available to the high school dropout and the graduate. Employers were asked to indicate the frequency with which they employed members from each of these groups for several job categories. Data analyzed by size of firm responding are presented in Table LXI for both groups. Opposite each type of job entry category are shown the percents of large, small, and of all firms by practice of employing high school dropouts and graduates. Percents for each the large and small groups are based upon the total number of firms responding in each group, but percents for all firms are based upon the total number of firms reporting a practice within a given job category. For example it can be seen that of the 131 small firms and the 30

TABLE LXI

EMPLOYMENT OF HIGH SCHOOL DROPOUTS AND GRADUATES BY JOB CATEGORY AND SIZE OF FIRM

Entry Job Category	Employment Practice By Percents								
	Common Practice			Infrequently			Almost Never		
	Small (N=131)	Large (N=30)	Both	Small (N=131)	Large (N=30)	Both	Small (N=131)	Large (N=30)	Both
	High School Dropouts								
Highly skilled jobs	2	3	5	3	-	6	29	57	88
Business, office jobs	2	-	3	5	-	9	32	63	88
Sales jobs	4	-	7	7	-	13	31	57	81
Apprenticeship for the highly skilled trades and crafts	2	3	5	8	-	19	23	47	76
Semi-skilled jobs (assembly line and production workers, machine operators)	5	10	16	11	20	33	18	30	51
Service jobs	15	7	27	11	23	28	20	37	46
Unskilled labor	29	33	43	20	27	30	21	10	27
	High School Graduates								
Technician jobs	5	7	24	2	17	19	12	17	57
Highly skilled jobs	3	-	15	3	7	23	11	7	62
Business office jobs	19	27	40	9	43	31	8	43	29
Sales jobs	18	7	44	11	13	31	8	13	25
Apprenticeship for the highly skilled trades and crafts	13	20	39	7	23	28	9	23	33
Semi-skilled jobs (assembly line and production workers, machine operator)	11	53	58	6	10	21	6	10	21
Service jobs	27	40	60	11	17	24	6	17	16
Unskilled labor	29	57	65	11	10	22	7	10	14

large firms, 2 and 3 percents respectively employ high school dropouts as a common practice for highly skilled jobs. Likewise, it can be seen that 29 and 57 percents of small and large firms responding almost never employ high school dropouts for highly skilled jobs. It can be observed also that of all firms reporting a practice relative to a highly skilled job 88 percent almost never employ a high school dropout for a highly skilled job, while 6 percent do it infrequently, and 5 percent make a common practice of employing the dropout for this type of job. The rest of Table LXI is to be read and interpreted likewise.

Observation of the data reveals that the high school dropout is employed as a common practice more as the amount and level of training necessary for the job decreases. Conversely, the percent of all firms reporting a practice for each job category increases relative to the practice of almost never employing a dropout as the amount and level of training increases. Eighty-eight percent of all firms reporting a practice for highly skilled and business office type of jobs report almost never employing a dropout, and 81 percent indicated the same for sales jobs. It is worthy of note that 46 and 27 percents of all firms reporting a practice for service jobs and unskilled labor indicate they almost never employ a high school dropout. Observation of data in Table LXI also reveals that larger percentages of larger firms almost never employ either dropouts or graduates for all types of job categories listed. Larger percents of large firms than small ones report employing high school graduates as a common practice for business office, semi-skilled, service, and unskilled labor jobs. Larger percents of large firms than small ones report employing high school graduates infrequently for all types of job categories listed. These data indicate that large size firms employ both dropouts and graduates less as a practice than do small ones and that they utilize more than small ones both dropouts and graduates for unskilled jobs. Larger firms use high school graduates for lower level jobs with greater incidence than do small ones. The large percents of all firms reporting a practice who almost never employ high school graduates for technician, highly skilled, business office, and sales jobs indicates the need for post high school level of occupational education to complement the work of high school graduates in these job categories who are employed.

It is evident that the high school graduate is employed more frequently than the dropout. The graduate is denied employment less frequently than the "dropout." Graduates seemed to have the greatest opportunity in business office jobs, sales jobs, and apprenticeship for highly skilled trades. Dropouts can expect to be excluded more often than graduates in highly skilled jobs also.

Extent of Firm-Operated Training Programs. Employers were asked if there was a formally organized training program in their company. Of the 176 firms responding to this inquiry 52, or 32 percent, indicated the existence of such a program. Of the 30 large firms, 57 percent reported some type of training as did 146, or 27 percent of the small ones. Types of training programs being offered are shown in Table LXII by number of firms reporting them.

TABLE LXII

TYPES OF EMPLOYER SPONSORED TRAINING PROGRAMS

Type	Small Firms	Large Firms	Both
Apprenticeship	24	6	30
Supervision	13	10	23
Executive Development	4	5	9
Technician Training	3	4	7
Plant Management	2	2	4
Sales	2	3	5
Job Upgrading		3	3
Driver Training		2	2
Patient Care		2	2
Safety	1	1	2
Customer Service		1	1
Total	49	39	88

Many of the small firms indicated a desire to provide programs such as those listed in Table LXII but were limited in time and personnel. Several of the large firms stated they would be interested in developing cooperative training programs in conjunction with educational institutions.

It can be seen that apprenticeship and supervisory type programs are found most frequently. Executive development and technician training follow in order of incidence.

Respondents were asked if they would be interested in participating in discussions or further study of plans for improving occupational education and training at the high school and post-high school levels in the Shiawassee-Clinton Area. Of the 149 firms responding to the question, two-thirds expressed interest. Of the large firms 77 percent were definitely interested and 20 percent were undecided. Slightly less than two-thirds of the small firms expressed interest in such participation.

Opinions on Courses of Action and Miscellaneous Matters. Since the study committee may be found with several alternative courses of action, employers were asked to react to three possibilities for action in providing vocational-technical education which may be deemed necessary. Respondents were asked to indicate each of the three types of action they would support. Many did not respond, however. Courses of action and number of respondents selecting each appear in Table LXIII.

TABLE LXIII

SELECTION OF POSSIBLE COURSES OF ACTION BY NUMBER OF FIRMS RESPONDING

Type of Action	Small Firms	Large Firms	Both
1. Substantial expansion of vocational education programs in the existing high schools.	56	10	66
2. Creation of an area vocational-technical facility for secondary (high school) and post-high school occupational training.	43	17	60
3. Creation of an Educational-Technical Institute providing both academic and vocational-technical training.	35	7	42

The greatest incidence of support favored the first or second plans. In answering these questions five (5) firms selected all three, and seven (7) others selected two courses of action each.

In order to encourage employers to voice their opinions, a space was provided for general comments and a representative sample of these comments follows.

"We are great believers in on-the-job training, a portion of time spent in class rooms and a portion on the job. We do not have a real formal training program nor is it possible for us to develop one due to the diversity of our needs. We do have at least two people in training on the job at any given time."

"We find it extremely difficult to employ young people right out of high school. We have been in the habit of waiting and watching people perform working for others. If they have the qualities and abilities we are looking for, we attempt to hire them. Of course they then go into on the job training with our management people giving them close personal supervision and attention."

"Most critical personnel need is in appliance repair."

"It is most important to provide educational facilities whereby a person may improve himself."

"One of the most critical shortages in our whole industry is skilled mechanics. It is my belief that for the most part young people are not interested in this work because they are not familiar with it; although most shops cannot compete with factory wages and fringe benefits, the wages are generally good and provide a substantial living. If there were enough vocational training along this line I believe that young people could become interested in this line of work and provide many with the necessary skills to at least enter this type of employment."

"It is my opinion that a Vocational School centrally located would be of great value to this area."

"Vocational School, day and night would be especially helpful in developing special skills in High School graduates, dropouts and those unable to attend college."

"In our operation, our greatest need would be facilities for our seniority employees to learn trades and skills that would allow them to use their seniority to upgrade into skilled and semi-skilled jobs, such as electrician, machine repair, millwright, plumber, hydraulic mechanic, and tool and die repair, as well as supervisory training."

"It would seem to me that there is much time being wasted in our present 12 year schools. I realize that it is hard for many young people to make up their minds as to what they want to do when they finish 12 grades but the fact remains that they must make up their minds sometime. If a young person plans to go on to college and is capable of a professional or highly technical job this is fine. On the other hand the boy or girl who is not going to college should somehow get the education that will give him more of what he needs to get a good job. I believe our commercial department in --- High School is a good example of what a high school can do in training young people for office jobs. With the typing, shorthand, and business machine training available to a high school boy or girl, he or she can fill many jobs and do a very nice job. I would hope that the other departments in the high school should try to improve their program."

"We find in most cases the high school graduate is a poor speller, also is not familiar with common math figures, unable to make change, is not familiar with simple business as to cashing checks, writing checks, requirements of bonafied checks, etc."

"The big pay offered by factories for the young non-skilled graduate makes it hard for the service business (Plumbing-Electrical) to hold good workers. The customer will have to pay more to get a service job done so we can pay our workers more."

"The high school graduate that comes to work for me actually costs me money until he has put in about 2 years on the job."

"Most of the younger help are clock watchers and check checkers and have little or no interest in the work that they are doing. It would be good if high school students could be trained part-time on jobs that they show an interest in. The biggest drawback to this is insurance which nearly forces us to use people 18 or over."

SECTION II - EMPLOYMENT NEEDS

To depict the present employment profile of "job" categories in the Area, respondents were asked to indicate, (1) the kinds of "jobs" involved in the operation and (2) the average number on the payroll for this year. The respondent was asked to differentiate between those jobs in which formal education and training beyond high school is essential or desired and those for which it was not. These data can provide help for the committee setting guidelines for proposing future programs. A differentiation for vocational-technical education at the high school level and for that to be considered at the post-high school level is possible. Employers were also asked about the availability of qualified employees and the expected trend for the future regarding employment demands for each type of job.

The responses referred to in this portion are taken from the job titles most frequently listed by firms of ten or more employees. The presentation of data will be divided into two main sections: I. Jobs that do not require formal, in-school education beyond high school, and II. Jobs requiring formal education beyond high school, but less than a four-year college degree.

Jobs That Do Not Require Formal, In-School Education Beyond High School. In this section the employers' responses indicated that the job titles under which more than twenty persons were employed, could be placed in two categories: (1) Industrial Employment; and (2) Sales and Service, including Business Employment. Data for Industrial Employment are shown in Table LXIV.

TABLE LXIV

INDUSTRIAL EMPLOYMENT

Type of Job	Average No. On Payroll This Year	Projection 1965-70		Availability	
		Increase	Decrease	Scarce	Surplus
		*	*	*	*
Assembly Line Worker	1,452	7	1	5	
Machine Operator	779	9		7	
Unskilled Labor	456	5		1	1
Welder & Flame Cutter	85	5		5	
Mechanic-general	63	2		3	
Machinist	57	4		6	
Carpenter	42	3		3	
Steel Worker	42	1			1
Auto Mechanic	40	6	1	6	
Truck Driver	35	1	1	1	1
Millwright	32	2		3	
Painter	28	2		2	
Other	95				
Total	3,206				

*Number of firms making this response.

In the area of industrial employment, the job categories which reflect the most expected increase in the next five years are: Assembly line work, Machine operation; Auto mechanics: Welder and flame cutter; and Unskilled labor. In addition to the indications shown in Table LXIV many of the businesses of fewer than ten employees that were not contacted would have increased the numbers in several of the categories especially those dealing with automotive repair and building trades. In the area of automotive repair, many of the service stations indicated a need for automotive mechanics, auto body repairmen, and service station attendants with some technical knowledge. The building trades indicated some needs for plumbers, masons, electricians and heating specialists.

Data on jobs in the sales, service and business category are shown in Table LXV. The numbers of firms reporting the available supply of qualified employees scarce coupled with the number who predict a future increase in numbers needed in these types of jobs indicates a definite need for training programs.

TABLE LXV

SALES AND SERVICE AND BUSINESS EMPLOYMENT

Type of Job	Average No. On Payroll This Year	Projected Increases 1965-70	Present Availability	
			Scarce	Surplus
		*	*	*
General Office Work	321	5	4	
Clerk-typist	227	9	6	
Bank Teller or Clerk	223**	2	2	
Nurses Aide	120	2	1	
Salesperson (retail)	104	4	4	1
Stenographer	81	4	7	
Stock Boy	63			1
Bookkeeper	61	5	8	
Seamstress (Sewing)	56	2	2	
Bus Driver	43	1		
Janitor	31	2	1	1
Other	95			
Total	1,425			

* These columns represent the number of firms making this response.

**The response from the central office of the Genesee Merchants Bank included all of their employees in this Area and the Flint Area.

Job categories of concern to the largest number of employers in sales, service and business are bookkeeper, stenographer, and clerk-typist. Many smaller firms not contacted would reflect like needs in the same areas. In addition, the need for competent and reliable sales personnel was frequently mentioned by smaller business officials.

Jobs Requiring Formal Education Beyond High School, But Less Than a Four-Year College Degree. Data on positions requiring post-high school training are presented here to assist the committee in determining the need for such programs. As these fields are more technical than those previously discussed, fewer persons are employed in them. In Table LXVI are listed all of the job categories in which are employed more than ten persons. For each are shown the average number currently on the payroll, the projected increases, and the present availability of qualified employees.

TABLE LXVI

EMPLOYMENT FOR THOSE PERSONS WITH TRAINING BEYOND HIGH SCHOOL

Type of Job	Average No. on Payroll This Year	Projected Increases 1965-70	Present Availability	
			Scarce	Surplus
Foreman-first line supervisor	157	3	6	
Nurse (RN)	107	3	3	
Outside Salesman	77	6	6	
Quality Control Technician	49	4	7	
Drafting and Design	48	5	7	
Nurse (Practical)	42	2	3	
Secretary	49	5	5	
Electrical Technician	29	3	3	
Business Management	21	1	2	
Accountant	18	3	6	
Total	663			

The need for personnel in the job categories shown in Table LXVI is strongly supported by the fact that not a single employer indicated a surplus in any field. In most cases the projected increase column indicates future needs and the high figures in the "Scarce" column tend to indicate some present needs.

The "Other" category refers to jobs not included in the listing because of their limited designation by employers. In the industrial fields this group included several types of technician: air conditioning; electronic; instrumentation; mechanical; and metallurgical. From the business and health fields, "Others" included commercial artists, data processing, merchandising, medical laboratory technician and X-ray technician.

The business and industry survey data provided herein include information on a total of 5,294 individuals, all of whom are employed by firms of ten or more employees. No accurate count could be made of smaller firms as many did not designate the number of employees.

SUMMARY

Findings of the business and industry survey would seem to warrant the following conclusions and summary items.

1. Less than half the large firms responding reported high school graduates to be well prepared for entry employment. About one-third of the small firms shared this reported assessment.

2. Nearly one-half the large firms reported high school graduates need additonal training to a considerable degree to be employable. Slightly less than one-third of the small firms shared this opinion.

3. Twelve percent of all firms reporting stated that high school graduates were suited for only unskilled labor. Twenty-three percent of the small firms view high school graduates as virtually unemployable. No large firm stated this opinion..

4. Non-high school graduates were described by even more sharply defined opinions. Over half the large firms reported this group as unsatisfactory for employment. Forty-four percent of the small firms reported high school dropouts as unsatisfactory for employment. Of all firms, 29.7 percent found this group employable but in need of much additional training. Less than a quarter of all firms reporting presented the opinion that high school "dropouts" can perform satisfactorily when employed.

5. Job entry patterns reflect the fact that thirty firms in the Area "Almost Never" employ "dropouts" even at the unskilled level. Job entry opportunities for the high school graduate are greater than for the dropout in all job categories, and this is a consistent pattern throughout the nation.

6. Employer-sponsored training is offered by fifty-six firms. Training includes eighty-eight specific programs. Most frequently offered are apprenticeship and supervisory training.

7. Two-thirds of the responding firms expressed interest in participating to develop improved vocational-technical education at both the high school and post-high school level.

8. Approximately the same number of Area firms favored the expansion of vocational education programs in existing high schools as favored the creation of an Area vocational-technical facility. The proposition of creating an Educational-Technical Institute for both academic and vocational training was least desired by the Area employers.

9. In an assessment of Area employment needs and conditions, several "job" areas revealed the present labor supply to be scarce and increases in the need for these employees to be eminent. This is particularly true in sales, service and business education in general.

10. Scarcity of available qualified employees and projected increases for the future give clues for the need of training programs for auto mechanics, machinists, welders, machine operators and assembly line workers. Service station attendants with technical knowledge, auto body repairmen, and building trades were indicated as needed.

11. Post-high school level programs in industrial supervision, nursing, drafting and design, business (sales and management), accounting, electrical technology, and industrial technology seem indicated.

CHAPTER VI

EXISTING VOCATIONAL PROGRAMS

Introduction. No study of vocational-technical educational needs would be complete without an enumeration of what presently exists in the schools of the Area. The purpose of this type of assessment is not to be construed as critical of any individual high school. The historical intent and purpose of American high schools has been to prepare youngsters for college. Vocational education in high school is a fairly recent trend in education.

Positive action in the development of vocational education came first in 1906 when a small group of men formed the "National Society for the Promotion of Industrial Education."[1] This group worked diligently for eight years to influence the passing of the Smith-Hughes Act of 1914. This Act provided the impetus for a nationwide interest in vocational education but has not as yet reached a sufficient proportion of our students. A 1960-61 study of the percent of in-school youth enrolled in Smith-Hughes and George-Barden (Title I and II) programs of vocational education shows that these reach only 13 percent of the nation's youth fifteen to nineteen years of age. The scope of Smith-Hughes Act as well as other subsequent federal legislation has been directed at seven program areas: Agriculture; Trades and Industries; The Fishing Industry; and The Highly Technical Occupations.[2] In addition to the above, office occupation courses should be included. These programs are designed to provide instruction for in-school youth and for out-of-school youth and adults.

The present emphasis in the Area schools is on the in-school youth, although some offerings are made to adults.

Part I

AREA HIGH SCHOOL VOCATIONAL PROGRAMS

An examination is made in this part of the report as to what is being offered in the Area high schools. Such an examination relies heavily upon course titles and will not presume to distinguish between either quality of instruction or details of course content. Vocational education today does not refer to the manual training concept of the earlier portion of the century. It does not mean "teaching the student to work with his hands." Vocational education refers "to all formal instruction for both youth and adults, at the high school, post-high school, and out-of-school levels, which prepares individuals for initial entrance into and advancement within an occupation or group of related occupations."[3]

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[1] Report of the Panel of Consultants on Vocational Education, Education for a Changing World of Work, (Washington Office of Education, Department of Health, Education and Welfare, 1963) p. 20.

[2] Ibid., p. 29.

[3] Ibid., p.5.

This definition implies a breadth of understanding of the nature of the occupational field and a depth of development of necessary skills.

The listing of a particular course within a high school program does not necessarily mean that it is vocational in intent or result. As an example, a great number (perhaps most) of the 1965 seniors whose reports are contained in Chapter II probably have taken courses in shop, agriculture and home economics; however, only 10.5 percent identified these fields as their choice of high school curriculum. Therefore, the number of enrollees in a particular course is not as indicative of vocational education within a high school as is the number of students in programs designed to include experiences which will prepare them for entry into an occupational field. With the above considerations in mind, the offerings of the Area high schools within the various instructional fields are given below.

Agriculture. On a national basis the vocational agriculture programs have constituted the largest portion of Federal Vocational-Education expenditures. In 1960-61, this area accounted for 34.1 percent of the funds for expenditures on in-school youth vocational instruction. This heavy emphasis is carried on through the state level to the local districts of this Study Area. The availability of funds coupled with the agricultural orientation of the Area has resulted in the development of agricultural curriculums in all of the high schools. Except one school in the Area, all offer four years of agricultural courses entitled Agriculture I, II, III, IV. In addition to these courses, six of the nine school districts offer separate courses in Agricultural Mechanics or Farm Shop. Corunna has the greatest number of offerings in agriculture. A student may elect to take Agriculture I, II, III, IV, Farm Shop, and Agricultural Mechanics. Table LXVII illustrates the offerings of Area schools in Vocational Agriculture.

TABLE LXVII

AGRICULTURE
RELATED COURSES AS OFFERED
IN SHIAWASSEE-CLINTON AREA SCHOOLS

Course	Byron/	Corunna/	Durand/	Laingsburg	/Morrice/	New Lothrop/	Owosso/	Perry/	Ovid-Elsie/	St. Johns
Agriculture I	X	X	X	X	X	X	X	X	X	X
II	X	X	X	X	X	X	X	X	X	X
III	X	X	X		X	X	X	X	X	X
IV	X	X	X		X	X	X	X	X	X
Agriculture*I Mechanics (Farm Shop)		X	X			X			X	X
II		X								

*Several schools integrate farm shop into the other courses in agriculture.

In addition to the formal in-school classroom instruction, many of the high schools sponsor Future Farmers of America, Young Farmers instruction, and Adult Agricultural classes. These activities are enhanced by the vocational agriculture teacher's visits with the farmers. Further encouragement to the vocational education of young farmers is provided through long range projects. Boys take on the responsibility for one facet of farming and follow it through under the supervision of the trained agricultural instructor.

Emphasis is currently being placed upon informing the young men of opportunities in agriculturally related occupations. It was noted in Chapter I of this report, that farms are decreasing in number but increasing in size. This has had a definite effect upon the enrollment in agricultural classes; however the newer concept of "farming and related occupations" may rejuvenate the vocational-agriculture programs.

Trade and Industrial Education. This type of education "includes training for skilled or semi-skilled crafts or occupations which involve the functions of designing, producing, processing, assembling, maintaining, serving, or repairing."[4] These programs under the vocational education concept generally require that half of the students' school day be devoted to instruction in shop, laboratory, and technical instruction directly related to the occupational area for which he or she is enrolled. At the present time only a very few of the courses listed meet for more than one hour or for more than one credit. (As an example of this exception is Owosso which currently has an automotive class meeting for half of each day. Most cooperative work programs also require half days.)

In Table LXVIII the vocational education courses related to trade and industry are presented. Note again that this table is restricted to presenting courses offered by title at the various high schools included in this study. When inspecting the table, one's attention is directed to the fact that most courses listed are of one-hour duration and do not meet the purpose of vocational education.

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[4] Ibid., p. 33.

TABLE LXVIII

TRADES AND INDUSTRIES RELATED COURSES AS OFFERED IN SHIAWASSEE-CLINTON AREA SCHOOLS

Course	Byron/	Corunna/	Durand/	Laingsburg	/Morrice/	New Lothrop/	Owosso/	Perry/	Ovid-Elsie/	St. Johns
Industrial Arts I (Basic shop primarily small projects in wood, sheet metal, plastics, etc.)	X	X	X	X	X	X	X	X	X	X
II	X	X	X	X	X		X	X	X	X
III	X		X				X	X	X	X
Metal Shop I		X	X			X	X			X
Metal Shop II		X					X			
Power Mech. I		X					X	X		
Auto Mech.		X					X			
Drafting I	X	X	X	X	X	X	X	X	X	X
Mechanical II	X	X	X		X		X		X	X
Drawing Arch. or Indus. Draw.		X								

In addition to the courses listed in Table LXVIII, Owosso High School offers Printing I and II, while Corunna lists Electronics I, II, III and Carpentry. Several schools work cooperatively with businesses in the Area to arrange for individual students getting experience in actual employment situations, Durand's drafting course is an example of such an arrangement. Advanced drafting students spend two hours per day for six weeks in the drafting department of Simplicity Engineering in Durand. In some of the smaller high schools, a serious student in industrial related subjects is allowed to pursue his interest on an individual basis. This type of arrangement, however, is done under the supervision of the teacher of the basic courses and is somewhat limited by time (usually a single period per day) and the availability of tools and equipment.

Another point of emphasis regarding trade and industrial education is its orientation toward out-of-school youth and adults. In 1960-61 the "out-of-school youth and adults" program represented 68 percent of the enrollment nationally in Federally sponsored programs of trade and industrial education. At the present time this Area has very few adult vocational programs. In separate sections of this chapter various opportunities in nearby communities will be discussed. Owosso High School does offer evening adult classes. Among the courses offered in fall 1964-65 which might be considered vocational in nature were: Typewriting; Shorthand Refresher; English and Public Speaking; Mechanical Drawing; Interior Wiring and Code; Office Machines; Auto Mechanics; and Bookkeeping. Of these courses Typewriting, Mechanical Drawing, Interior Wiring and Code, Office Machines, and Bookkeeping were offered in the winter term. In the spring, Typewriting was scheduled. These classes normally last for ten weeks, although some may extend for twenty weeks or two terms. The cost is $7.00 per term and classes meet one night a week.

Home Economics. This curriculum has had the largest enrollment nationally of any of the federally reimbursed vocational education programs. It is the intent of this program to "contribute to the quality of family life and the development of the individual."[5] The study of many phases of homemaking is included such as managing the home; maintaining the family's health; guiding the development of children; selecting, preparing, and serving nutritious family meals; selecting, caring for, and making clothing; managing money wisely; caring for sick and aged members of families; improving housing and home furnishings; and providing suitable family recreation."[6]

TABLE LXIX

HOME ECONOMICS
RELATED COURSES AS OFFERED
IN AREA SCHOOLS

Course	Byron	Corunna	Durand	Laingsburg	Morrice	New Lothrop	Owosso	Perry	Ovid-Elsie	St. Johns
Home Economics I	X	X	X	X	X	X	X	X	X	X
II	X	X	X	X	X	X	X	X	X	X
III	X		X	X	X	X	X	X	X	X
IV	X		X	X	X			X	X	X
Home & Family					X		X	X		
Adv. Homemaking	X									

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[5] Ibid., p. 34.

[6] Ibid., p. 36

Indicated in Table LXIX is the fact that all of the schools offer at least three years of courses designed to meet the objective of vocational home economics. Not all of the schools however participate in the reimbursement program as prescribed by the State and supported by Federal funds. Owosso offers courses entitled Home Art I, II, III and Boys Homemaking. It is apparent that this area of vocational education in Home Economics is the most universally and consistently offered in all of the Area Study Schools.

Distributive Education. "Education for distributive occupations is a program of instruction largely related to principles and practices of marketing and distribution."[7] Federally supported programs are designed for persons employed in distributive occupations. Generally the "in-school program consists of students in the 11th or 12th grade of high school and of students in the first two years of post-high school programs, such as junior colleges. These programs are cooperative (school-work) programs in which students receive career training both in the classroom and through supervised work in a distributive occupation."[8]

Owosso and Corunna list cooperative work experience among their course offerings. Other school principals have allowed or encouraged work experience as mentioned above but do not have a structural cooperative work experience program. Several of the schools offer courses which are concerned entirely or in part with distributive-services education. The offerings of the various schools are:

CORUNNA

General Business
Retailing (semester)
Salesmanship (semester)
Cooperative Work Experience

DURAND

General Business
Business Law (semester)

MORRICE

Business Law (semester)
Business Math (")

OWOSSO

Retailing
Business Law
Junior Business
Cooperative Work Experience

NEW LOTHROP

General Business

PERRY

Advanced Business Education

Laingsburg and Perry offer their students supervised correspondence courses which conceivably could include distributive-services related courses.

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[7] *Ibid.*, p. 39.

[8] *Ibid.*

Office Occupations. This aspect, commonly referred to as commercial education, is concerned with preparation for occupations which are classified as clerical, stenographic or secretarial, as well as bookkeeping and accounting. In this type of curriculum the Area's schools reflect consistency of emphasis. All these schools have basic programs but the larger schools offer broader training.

TABLE LXX

OFFICE OCCUPATIONS RELATED COURSES AS OFFERED IN SHIAWASSEE-CLINTON AREA SCHOOLS

Course	Byron	Corunna	Durand	Laingsburg	Morrice	New Lothrop	Owosso	Perry	Ovid-Elsie	St. Johns
Typing I	X	X	X	X	X	X	X	X	X	X
II	X	X*	X	X	X	X	X	X	X	X
Personal							X	X		
Bookkeeping I	X	X	X	X	X	X	X	X	X	X
II		X					X			X
Shorthand I	X	X	X	X	X	X	X	X**	X	X
II	X	X	X				X		X	X
Office Machines	X	X					X		X***	
Office Practice	X	X			X		X	X		

*One semester courses
**Forkner Speedwriting - The other schools employ Gregg Shorthand
***Offered in conjunction with Typing II

In addition to the office occupations course offerings listed in Table LXX, the schools offer the following as shown below.

BYRON	CORUNNA	OWOSSO
Business English	Cooperative Work Experience	Machine Stenography I Machine Stenography II Cooperative Work Experience

In this field as well as distributive education, the principals of the other schools allow and/or encourage work experience on an individual basis. The smaller schools are sometimes forced to offer courses on alternate years (e.g. Shorthand I may be offered in 1964-65 and Bookkeeping I may be offered in 1965-66.) This field reflects more enrollment by girls.

Summary. Programs currently exist in Agriculture, Trade and Industry, Home Economics, Distributive-Services Education, and Office Occupations Education. The eleven school districts are most alike in Agriculture, Home Economics and Office Occupations Education. Trade and Industry Education is more highly developed in the larger schools while Distributive Services Education appears the least well developed in any school. Programs in Practical Nursing and Related Health Occupations, and the Highly Technical Occupations are not currently offered. These are more appropriate to a post-high-school program, according to Federal publications.

Several schools have or are building facilities and have been developing new programs in vocational education. Corunna is currently engaged in an experimental program under a Ford Foundation grant. As an example of the changing concept of vocational education the program of Corunna High School is included at this time.

Industrial and Technical Education

Corunna Public Schools

Industrial and Technical Education is a phase of general education for boys and girls that concerns itself with the materials, processes, and products of industry. The learning comes through experiences with tools, materials, technical terminology, planning and drafting. These learning experiences might be applied to a job or trade, to the individual on college prep., or to everyday living.

Industrial Arts Exploratory

7th Grade	8th Grade
1 Semester 2-9 Week Units	1 Semester 2-9 Week Units
Electricity-Electronics Power Mechanics	Drafting Woodworking

Elective Industrial Arts Courses

9th Grade

General Industrial Arts	General Drafting

Vocational and Technical Orientated Courses

10th Grade

Basic Electricity Electronics I
General Drafting
*Machine Drawing
Metal Technology I
Power Mechanics
Technical Related Math

Vocational and Technical Courses

11th Grade	12th Grade
*Machine Drawing	*Electronics III (2hour)
X*Arch. Drawing	*Machine Drawing
*Auto Mechanics I (2 hour)	X*Arch. Drawing
*Electronics II (2 hour)	X*Industrial Drawing
XCarpentry (proposed 3 hour)	XWood Technology
*Metal Technology II (2 hour)	*Co-operative Training

*Prerequisite required
XOffered Every Other Year

Underlined courses will be offered next year.

It is suggested, but not necessary, that the courses be taken under the grades listed.

Industrial and Technical Education

General Industrial Arts

A senior high course open to boys and girls that may be taken in the ninth, tenth, eleventh, or twelfth grades. It is preferred that it be taken in the freshman year. The course is exploratory in nature, covering an introduction to Drafting and Design, Machine Woodworking and Industrial Processes, Gun Blueing and General Metals, Plastic and Fiberglass.

Carpentry. Practical Carpentry is a senior high course open to all boys and girls in grades ten, eleven, and twelve. It is desirable to have general shop as a prerequisite but not necessary.

The purpose of the course is to present in simple form, examples of proven construction methods and information which will enable anyone who is handy with tools to build a home that is well designed, sturdy, and one that will not require costly repairs at an early date. Along with the technical information, all the different materials will be discussed and a scale model of a home of your choice will be built.

Wood Technology. Open to grades ten, eleven and twelve. Presents current information on materials, tools, and processes.

Technological developments in products, tools, and building techniques will be given great emphasis. Acquaints students with the sources, uses, and limitations of wood products. This course will give the student a basic knowledge of woodworking that will be useful to him regardless of the occupational choice he makes in later life. An example of one of the things this class will do, will be to design a commodity, and mass produce as industry would. We have done this with toboggans in the past.

General Drafting. A senior high course open to boys and girls. It may be taken any year, but it is preferred that it be taken in the freshman or sophomore years.

The course is exploratory in nature, covering an introduction into Lettering, Instruments, Geometrical Construction, Dimensioning Studies, Orthograph Projection, Isometrics, Obliques, Auxiliary Views, Sectioning, Thread Representation, Perspective, Sketching, Plot Drawing, and Working Drawings. Here you will receive the basic fundamentals of drafting and learn to use the instruments, thus better preparing yourself for advanced courses or everyday living.

Machine Drafting. This course will be offered to any student in grades ten, eleven, and twelve who has completed General Drafting.

This course is set up primarily for the individual who plans a future in Engineering, Tech. Training, or Drafting in Industry. It would also be beneficial to anyone who is mechanically minded or one who is interested in the construction of machines, equipment, and layouts.

The course covers gears, cams, descriptive geometry, revolution, motion, sheet metal development and intersection, and the designing of a small machine. Tracing, inking, and blueprinting will be introduced to the students and correlated in with their drafting problems.

If a student plans on attending an engineering college upon graduation this course is a must.

Architectural Drafting. Architectural Drafting will be offered to any boy or girl after they have completed General Drafting. The course will be offered every other year.

The course will be constructed to meet the needs of those who plan to become Architects, do Landscaping, or enter some phase of Interior Design, or those students who will someday become homeowners. Emphasis will be placed on design, consumer knowledge, building material, and creativeness.

Course content will include design of a cottage, designing a home including floor plans, elevations, basement plan, detail sheet, perspective materials, cost sheet, tracings, and blueprints, and plot plan.

Industrial Drafting. Will be offered every other year and will be open to grades eleven and twelve. This course is designed for those students that want to go into the drafting field as a career. This course will be set up with industry.

Power Mechanics. A course for sophomores, juniors and seniors. It is preferred that if a person is not interested in taking Auto Mechanics I and being placed on co-op his senior year, should take this course his junior or senior year. Troubleshoot, service and overhaul, two-cycle and four-cycle engines. Fundamentals of electric motors, hydraulics and various forms of power.

Auto Mechanics I. Open to juniors and seniors with Power Mechanics being a prerequisite. Master the essential information concerning the construction, operation and repair of cylinder blocks, heads, cam and valve mechanisms, and cooling and lubrication systems of the engines. The course is designed for students who are interested in making automotive maintenance their life's work. Also for those students who are interested in Automotive Maintenance as a hobby. The boys who show interest and ability will be placed on co-op their senior year in a local dealership.

Metal Technology I. Will be offered to any students in grades ten, eleven, and twelve. It is suggested that General Industrial Arts be taken first, but it is not required. The students will be provided with a background in the metals area, including the reading and application of blueprints, the basic theory and practical use of lathes, shapers, mill machines, surface grinders, drill presses, and a basic background in welding, sheet metal, foundry and heat-treat.

If a student is interested in pursuing this area, he should take Technical Math and Drafting during his high school years.

Metal Technology II. (2 hours per day) Will be offered to students in grades eleven and twelve. Students will spend the year working in the field of their selection: Machines, Foundry and Heat-Treat, Welding or Sheetmetal, Layout and Development. When necessary these areas will be interrelated to give the students the background and the understanding industrial people want students to have.

Students showing interest and ability will be placed on co-op their senior year. Students taking this class should have taken or be taking Drafting and Technical Related Math or an Advanced Math Class. Metal Technology I is a prerequisite.

Technical Related Math. Open to grades ten, eleven, and twelve. This course will lay the groundwork for the application of Mathematics to shop problems by explaining in simple language the Fundamentals of Arithmetic, Algebra, Geometry, and Trigonometry. Emphasis is then given to basic problems arising in the building trades, the Electrical Shop and the Machine Shop. Special effort will be taken to make the mathematics grow out of shop and industrial situations, and to have the student use mathematics in connection with shop activities. (Math credit will be given.)

Basic Electricity Electronics I. A high school course open to boys and girls. It may be taken in the tenth, eleventh, and twelfth grades. A technical course in fundamentals needed for electronic circuits, including radio, television and industrial applications. Starting with Electronics and Electricity, the topics progress to D-C circuits, Magnetism, A-C circuits, Electron Tubes and Transistors. Only a minimum amount of mathematics is used. The course is aimed at beginning students without any previous experience in electricity or electronics. 50% theory and 50% laboratory work.

*Students will use breadboard kits and testing equipment furnished by the school.

Electronics II. Open to grades eleven and twelve. The occupations for which this is intended: Radio and T.V. Technicians, Industrial Technicians or for any students interested in the field of electronics as a career or a hobby. 50% theory and 50% laboratory work.

Basic Electricity Electronics I is a prerequisite.

*Physics credit will be given to the students who complete Basic Electricity Electronics I and Electronics II.

Electronics III. Open to seniors. This course will not be offered for two more years. Basic Electricity Electronics I, and Electronics II will be prerequisites.

The vocational and technical courses will be coordinated with industry so graduates will be qualified to obtain employment.

Students who have ability and show interest will be placed on co-op with local industry their senior year.

PART II

OCCUPATIONAL PROGRAMS IN NEARBY COLLEGES

In close proximity to the Shiawassee-Clinton Area are two institutions designed to provide post-high school education of less than baccalaureate degree status. These two institutions, Inghem County Community College and Flint Community Junior College, are currently open for enrollment of persons in this Area. They are considered as supplementary to what is available in this immediate Area. Both of these schools offer programs of credit transferrable to four year institutions. The study refers only to those courses of post-high school education which will prepare the student for entrance into a particular occupational field.

It should also be noted that some employers in the Shiawassee-Clinton Area are reluctant to send personnel to these institutions. Several have found that capable young persons sent to these institutions for training have been hired by large firms present in those communities. While this speaks favorably of their training programs, it points out a reason for their omitted utilization by this Study Area.

Ingham County Community College. Although Ingham County Community College in Lansing is relatively young, it has developed several programs of occupational training. These programs are found in the Division of Applied Arts and Sciences which is divided into seven departments. They are as follows:

I Apprenticeships. The Apprenticeship Training Department is operated by the Ingham County Community College in cooperation with labor and management as part of a joint program consisting of:

1. Practical training in a specific skilled trade, and
2. Related training provided at the college for the trades.

The school program is not designed to give complete trade training but is supplemental to the training on the job. Anyone desiring trade training must be employed as an apprentice before entering the class. The college does not provide apprentice placement service, nor does it exercise control over selection of apprentices.

The trades currently participating in apprenticeship programs are:

Bricklaying
Carpentry
Die Design
Die Making
Die Sinking
Drafting (Architectural)
Drafting (Mechanical)
Electrical (Construction)
Electrical (Industrial)
Engraver, Die
Machine Repair
Machinist
Millwright
Model Making
Painting & Decorating
Plumbing-Pipefitting
Sheet Metal
Tool Design
Tool Inspection
Tool Making
Tool & Die Making

II Department of Business. "An Associate Degree in Business is granted to students who successfully complete a specified two-year program. This degree may be earned by students who wish to transfer to a four-year institution as well as by students who intend to work at the end of the two years."[9] In addition to the Associate Degree program the student may select an alternate one year (45 credit hour) program for more immediate employment. The Department of Business offers programs in:

A. Accounting
B. General Clerical
C. Pre-Business
D. Secretarial Science
E. Secretarial Science Legal
F. Secretarial Science Medical

III Department of Engineering Technologies. "The Community College Engineering Technologies Department serves two broad purposes. One is to train Technicians and two-year graduates, the other is to provide a myriad of incidental training functions in the community, including cooperative training, internship training, refresher courses, retraining, and specialized technical courses. The faculty in this division will maintain continuous contact with industry and the engineering profession to keep the instruction pertinent and current."[10]

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[9] *Lansing Community College 1964/65* bulletin p. 42.

This is the Highly Trained Technicians training mentioned in the discussion of Federal support at the beginning of this chapter. "A Technician is a person who has concentrated information in a specialized technical field with emphasis on the non-theoretical or applied aspects."[11] These technicians supplement and assist the engineer scientist. Technicians may be trained in the following fields:

A. Chemical Technology
B. Civil Technology-Highway
C. Civil Technology-Sanitary
D. Civil Technology-Structural
E. Computer Technology
F. Drafting Technology-Architectural & Construction
G. Drafting Technology-Electrical & Electronics Communication
H. Drafting Technology-Electrical & Electronics Industrial
I. Electronics Technology
J. Mechanical Technology

IV Department of Health Science. This department has programs which are designed for transfer of credit to other institutions within the State. These programs include Dental Hygiene, Occupational Therapy, and Professional Nursing. Other programs which are designed for more immediate employment and offered in conjunction with medical facilities in the Lansing area are:

A. Dental Assisting
B. Practical Nursing
C. X-ray Technician

V Department of Management and Marketing. This department is designed for either transfer to four year institutions or for employment at the mid-management level. Internships and community service programs to meet present and anticipated job and business requirements are offered. The programs listed in the 1964-65 catalogues are:

A. Electronic Data Processing
B. Food Service Mid-Management Technology
C. Hotel-Motel Mid-Management Technology
D. Law Enforcement
E. Library Technology
F. Management
G. Marketing

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[10] Ibid., p. 48.

[11] Ibid.

VI Retraining. This department is directly concerned with the retraining of the unemployed or unemployable to allow them to take their place in society. Many of the trainees are subsidized under the Manpower Development and Training Act. The curriculum changes frequently to insure that the trainee is being offered a marketable skill.

VII Department of Vocational Technical Training. The community college services the needs of local business, industry, and government. This department offers opportunities to the employee for upgrading himself in a program requested by the employee. An example of this type of course is the Truck Driver Training Course sponsored by Trucking Firms and Manufacturers.

Flint Community Junior College is much like Ingham County Community College in the offering of transfer credits and terminal education programs. In presenting the offerings of the Flint Institution an attempt will be made to indicate the variety of the course and the scope of the entire program. Information presented is taken from a twenty-four page newspaper advertisement of the Mott Adult Education and Recreation Program of the Flint Board of Education, Fall 1965.

Flint Community Junior College subscribes to the same community service concept as that of the Lansing College. In response to requests from the community and in reflection of community needs the following courses were offered by the Community Division of the College:

A. Air Conditioner System Design I
B. Air Conditioning System Design I
C. Chartered Life Underwriter Preparation
D. General Insurance
E. Mantrap (Management Training Program)
F. Medical Assistants Inservice Education
G. Practical Management for Small Business
H. Refrigeration I
I. Refrigeration II
J. Refrigeration Service
K. Stock Market Techniques I
L. Stock Market Techniques II
M. Stock Market Techniques
N. Tax Clinic
O. Manpower Development and Training in:

    1. Arc Welding
    2. Automobile Body Repair
    3. Automobile Mechanics
    4. General Clerical
    5. Machine Operator
    6. Office Machine Operator

In addition to the above mentioned community service offerings, two other areas of interest were listed. Under the category Mechanical Skills, thirty-one classes were listed. A few of those listed were Appliance Repair, Auto Repair, Carburetion, Outboard Engine

Tuneup and Repair, Garage Construction, General Drafting I-II, Theory and Practice in Municipal Sewage Treatment, and Wallpaper Hanging. Prices of courses range from $2.50 to $7.00 per course.

A second category is Trade and Industry. This was divided into four sub-sections: Welding (including arc, heliarc, oxy-acetylene, and theory and practice); Sheet metal; Electricity (including such courses as DC Fundamentals, AC Fundamentals, Transistors, National Electrical Code I and Residential Wiring) and Blueprint Reading. The prices of these courses range from $5.00 to $25.00. The courses are usually in progress about 15 weeks and a class limit is placed on the enrollment in many. The Heliarc Welding course was a special 8 week course, limited to 6 students and costing $25.00.

A study of the Flint Catalogue indicates that it also has a Division of Applied Sciences and lists Technicians Training as does the Ingham County Community College. Both of these institutions are faced with mushrooming enrollments.

Owosso College. Although Owosso College is primarily a liberal arts college, it is including courses of a vocational nature. The College is currently developing a program for the Training of Registered Nurses. Other vocational programs at the college level are being considered.

SUMMARY AND CONCLUSIONS

Findings suggest the following conclusions and summary statements.

1. Although the courses offered by the Area schools prepare some students for entrance into occupational fields, most of the programs are not truly vocational education in design for they lack breadth of offerings or depth of experience.

2. The size of the school dictates the variety of opportunities from which an individual student may choose. However, the larger schools have indicated that their number of students and the limitations of finances hinder the development of their programs. Another factor mentioned most often by administrators in the Area schools, is the difficulty of finding qualified instructors in particular fields of vocational education.

3. Home Economics and Vocational Agriculture are the two areas most comprehensively offered in the schools of the Area. Most schools offer at least four years of training in these fields.

4. Office occupation programs are fairly well developed in that all schools offer at least two years of typing, a year of bookkeeping and a year of shorthand. The smaller schools do not appear to offer experience in more advanced business machines or office procedures.

5. Trade and Industry programs are not comprehensive, nor are course offerings extensive in most occupational areas, in the

Study Area schools. The smaller schools tend to offer drafting and basic shop work in wood, plastics and sheet metal while some of the larger schools have expanded their programs to include experience in the fields of electronics, automotive repair, power mechanics and advanced drafting.

6. Distributive education is the least well developed program among the Study Area schools. Retailing courses are offered in Owosso and Corunna only.

7. While other Federally sponsored programs such as Practical Nursing (related health occupations) and Highly Technical Occupations may be applicable to the needs of the Area, no programs are presently being offered in Shiawassee or Clinton Counties.

8. The Community Colleges of Ingham County and Flint offer courses which may provide vocational-technical education opportunities to the residents of this Area. (These may not be available to us in the future.) The terminal education programs offer opportunities at both the skilled craftsmen level (e.g. welding, auto body repair, bricklaying, electronics, etc.) as well as the technologies (e.g. Chemical, Civil, Computer Electronics etc.). Certain disadvantages have been expressed by Study Area employers with regard to utilizing these institutions for upgrading their employees.

9. Although the in-school vocational-education program in the Study Area is currently functioning on a somewhat limited basis, (previously discussed in this section) the program for out-of-school youth and adults has not yet been developed by any of the schools except Owosso. This area may deserve considerable attention by this Study Committee.

RECOMMENDATIONS FOR ACTION

CHAPTER VII

Introduction. The purpose of this Chapter is to relate the types of occupational education programs needed which data from the surveys seem to justify or to suggest. Data from these studies must be interpreted in terms of regional, state and national trends and conditions. Of considerable assistance has been a recent study in Michigan including guidance personnel from high schools enrolling over half of all students in the State and administrators and counselors of all community colleges offering occupational education.[1] One of the central purposes of this study was to study the optimum high school preparation for future success in a technical curriculum designed to prepare for work in industry.

Suggestions for secondary level occupational programs need to take cognizance of several facts. Unskilled jobs are disappearing in all fields of endeavor. High school dropouts are virtually unemployable for anything except common labor jobs and new high school graduates for the most part are not ready for career jobs. Recent Michigan studies have shown that employers in general feel that new high school graduates are not ready for employment with their firms, except in jobs at the unskilled and semi-skilled levels.

Within the State it has been pointed out that there will be a great deal of demand for technicians in the next ten years, possibly 150,000 new positions in Michigan.[2] The National Science Foundation estimated that by 1970 the total national need for technicians in industry will increase 67 percent from the 775,000 employed in 1960.[3] The development of middle manpower occupations has likewise accelerated in other fields such as health sciences and business. Preparation for these occupations requires one or two years beyond high school graduation. Both Michigan's high school counselors and community college administrators and guidance counselors agree that the technician will probably come from the middle-level student comprising 50 percent of the high school age group. The minimum level of ability which would predict success in a technical program is about the 30th percentile of the high school graduating class.

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[1] Harris, N. and Yencso, W., Technical Education in Michigan Community Colleges (Current Status of Collegiate Technical Programs and Feasibility of Pre-Technical Programs in High Schools), The University of Michigan, School of Education, March, 1965.

[2] Commission on Children and Youth of the City of Detroit, Some Facts About Youth Employment, The Commission, Detroit, 1961.

[3] National Science Foundation, Scientists, Engineers, and Technicians in the 1960's, NSF 63-64, U.S. Department of Labor BLS, Washington, D.C., 1964

Realistic secondary school programs must include, in addition to the typical three-track curriculum (college preparatory, general, vocational), a fourth one which would have as its objective the preparation of students for entry into community college occupational programs designed to prepare the technician and the semi-professional worker. There appears to be general agreement among Michigan secondary school and community college guidance personnel that the pre-technical high school program leading to community college study in industrial or engineering technology should consist of the following: three units of English, two units in algebra, additional units in geometry and/or trigonometry, one or two units in physical science, a unit or two in mechanical drawing, and one unit in general shop.[4] Michigan educators agree closely with national authorities in this matter.[5] Similar core secondary school experiences might be identified for pre-technical training in the health sciences, certain service occupations, and business occupations. As can be observed, the pre-technical programs will generally include little which is not already offered in most secondary schools.

The problem at the secondary level is to develop in conjunction with institutions offering post-secondary level technical and semi-professional programs, pre-technical programs as a fourth curriculum track. Another problem is to identify those decreasing numbers of occupational areas in which vocational education at the high school level will prepare for job entry. If the majority of the upper 25 percent of high school graduates will probably pursue four-year college degrees and a majority of the middle level will fill the semi-professional and technician level positions for which one to three years of post-high school education is needed, then secondary school vocational-programs will be predominately for the lower third who will seek gainful employment upon high school graduation and some of the others who for one reason or another did not wish to continue their education.

Recommendations. Strong evidence exists from the different surveys that the predominant educational need in the Area is for curriculums at the post-high school level which will include a diversity of occupational programs, pre-professional programs and college parallel studies which can be transferred to the junior year of a four-year university.

Sixty percent of the seniors had plans for college attendance; 60 percent of the graduates had attended college; 60 percent of the parents of fifth grade children expected their child to continue his education beyond high school. Lack of finance was a major reason why graduates had not continued their education and why seniors were not planning on continuing also. Large numbers of graduates (70 percent) indicated they would have been interested in some type of semi-professional or technical education after graduation had it been available in the Area. Over two-thirds of the employers contacted indicated that high school graduates were virtually unemployable, suitable only for unskilled jobs, or needed much additional education. Most, almost never employ a non-high school graduate. With approximately 5,000 youth in grades 9-12 by 1970, with selective admissions procedures being increasingly implemented in State four-year colleges and expected for non-resident students at Ingham County and Flint Community Colleges, from 1,500-2,000 persons would be served by such curriculums if located in Shiawassee County.

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[4] Harris, Op. Cit., pp. 36 ff.

[5] The American Society for Engineering Education, Characteristics of Excellence in Engineering Technology Education, James L. McGraw, Project Director, Urbana, Illinois; The Society, 1962, p. 19.

Only 1 percent of seniors and about the same percent of graduates expected to attend or had attended Owosso College. The predominent need exhibited by data in the study appears not to be satisfied by existing post-high school facilities. Previous studies and experience in Michigan reveal that adults are not interested and will not take advantage on any large scale of educational programs offered at night in secondary school facilities to the extent they will consume similar and even identical offerings in facilities designed for post-high school curriculums.

Data substantiate the need for secondary school level pre-technical and pre-semi-professional programs in the business fields, health sciences, engineering technologies and certain service occupations. Vocational programs in certain service occupations, trades, clerical and secretarial fields, homemaking, industrial education and agriculture seem needed by all areas. Job upgrading opportunities are needed in the Area. Data of the survey do not indicate what specific course offerings might most economically be provided in these fields at a central location for all schools. This is a decision to be made by appropriate personnel from the faculties of the respective high schools working together.

Data from the graduates, parents of fifth grade children and seniors indicate that in their opinions, high school counseling and guidance programs could be improved. Data of this survey corroborate findings of a recent state-wide study of high schools enrolling over half of all high school youth. It was found that over 70 percent of the high school counselors discuss technical education programs and technical careers with the students only if the students ask about them. Over half the counselors didn't even know the identity of the director of technical programs in which high school graduates could enroll. While opinions are not facts, they give some sound clues for study with a view toward improvement.

It is difficult to ascertain the number of youth who would be served by secondary school courses or programs made available at a central location. The best estimate presently would be approximately 500 with the majority being in advanced courses in business education and certain service occupation programs such as food handling, service station attendant, etc. Facilities for offering semi-professional and technical programs can be readily utilized and adapted to offering either courses for adult job upgrading or for secondary school credit toward graduation. The provision of all these curriculums and courses at a central accessible location will serve the most persons, young and old, wherever they reside within the county, at the least cost to the taxpayer.

Alternative Lines of Action. In view of the nature, scope, and magnitude of need for educational programs in the Shiawassee Intermediate District Area, planners are faced with several alternatives in implementing action.

Alternative one would be to do nothing more than is presently done and fail therefore to provide for the educational needs of residents and the demands of local Area employers.

In taking action to meet the educational needs borne out by the study, one alternative would be to plan for a secondary school level vocational education center designed to serve approximately 500 individuals (head count). This center would belong to one of the school districts with which the Intermediate School District would contract for services. Students attending would receive credit back in their own high schools toward high school graduation for work done in the center on a partial-day basis. In the contractual agreement between the Intermediate District and the public school district operating the center, provision could be made for a geographically representative advisory board that would determine curriculum policies. In this case, the Intermediate District would need to propose a mill levy on which the voters will vote. Monies collected by the Intermediate District for the purpose would be used to operate the center.

A second action alternative would be to provide a public comprehensive community college type institution which would serve the post-high school education needs of youth and adults in occupational (technical and semi-professional) education, general education, college transfer, and job upgrading continuing education. Such an institution would serve approximately 1,500-2,000 persons (head count). It would be under the control of an autonomous elected Board of Trustees and require at least one mill levy authorization. High school dropouts and adults wishing to upgrade job skills would be served as would persons wishing to pursue some of the middle manpower occupations.

A third alternative would be to provide for the high school level, 11th and 12th grade, vocational education of 500 high school students (head count) and the full range of post-high school needs for 1,500 to 2,000 individuals (head count) in a combination vocational-technical center and community college which would place primary emphasis upon technical education. This could be done for a levy of 1.5 mills. Such a plan would enable joint use of space and facilities, staff, and administrative services. Such an arrangement would give status to the high school vocational-technical work, enable curriculum articulation and coordination, and facilitate more effective and continuous guidance from grades 11 through the sophomore year level of community college work. Such a combined facility would serve all the types of persons which could be served by a high school level vocational technical center and in addition, approximately four times more individuals desiring and needing post-high school level programs.

SUMMARY

Based upon findings of the various surveys and studies and enrollment projections several recommendations and alternative lines of action were suggested. The consultant recommended the third action alternative which was subsequently unanimously adopted by the executive committee after considerable deliberation and study. This would be an Area vocational-technical center and community college combination.

CHAPTER VIII

LEGAL AND FINANCE

Introduction. This chapter provides the most current information available for planning and financing each of the "Alternative Lines of Action" presented in Chapter VII. It provides information in three areas of concern: (1) Legal definition and provision for organization; (2) Population projections and enrollment predictions; and (3) Estimated cost for capital outlay and operation.

Part I

Legal Definition and Provision for Organization. Legal provision for the establishment of the first alternative in Chapter VII is found in Michigan Act 190 of Public Acts of 1962, as amended by Act 246 of Public Acts of 1964. This legislation provides that an intermediate school district may make a "comprehensive study of the educational conditions and needs," may levy and collect millage by referendum, and "may enter into long term contracts with constituent districts or community colleges" to provide area vocational-technical education programs. Such contracts must be for a period of at least 15 years. Intermediate boards are "specifically prohibited from operating area vocational-technical education programs."

The basic legislation which provides for the establishment of a "community college or area vocational-technical education program" are Acts 189 of Public Acts of 1951 and Act 188 of Public Acts of 1955, as amended by Act 182 of Public Acts of 1957, as amended by Act 200 of Public Acts of 1959, as amended by Act 135 of Public Acts of 1960, as amended by Act 200 of Public Acts of 1961, as amended by Act 98 of Public Acts of 1963, and as amended by Act 237 of Public Acts of 1964.

The law defines a community college as "an educational institution providing primarily for all persons above the twelfth grade level and primarily for those within commuting distance, collegiate and non-collegiate level education including area vocational-technical education programs which may result in the granting of diplomas and certificates including those known as associate degrees but not including baccalaureate or higher degrees."

The same section defines an area vocational-technical education program as a program of organized systematic instruction designed to prepare the following individuals for useful employment in recognized occupations:

(a) Persons who have completed or left high school and who are available for full-time study in preparation for entering the labor market.
(b) Persons who have already entered the labor market and who need training or re-training to achieve stability or advanced employment.
(c) Persons enrolled in high school.

This section goes on to state that the programs or courses for a high school enrollee will be provided at the request of the superintendent of the school district in which the person is enrolled.

Legal provisions permit the establishment of a community college program after prior "approval of the superintendent of public instruction with advice and counsel of the state board of education" and a favorable vote of the people by:

(a) "One or more contiguous counties, or contiguous parts of counties, or the total geographical area of one or more counties excepting that portion or those portions which is, or which are, included already in a community college district."
(b) "Two or more school districts which operate grades kindergarten through twelve within a county or contiguous counties."

As may be noted, the community college legislation provides the legal basis for the second and third alternatives proposed in Chapter VII.

Part II

Population Projections and Enrollment Predictions. In order to arrive at a reasonable estimate of the number of individuals each of the alternatives might serve, it is necessary that some projections of population be considered at this point. Several methods of projecting population growth patterns are used by sociologists, educators and businessmen to make sound predictions of future needs. In the Shiawassee Intermediate School District, two very recent projections were readily available. These were the projections of Dr. John F. Thaden, a sociologist on the staff of Michigan State University, the other projection was that presented yearly in the Data Book of the Shaiwassee Intermediate School District, prepared by Mr. Raymond Jokipii of the superintendent's office. Similar material was not presently available for the St. Johns or Ovid-Elsie school districts. St. Johns has a student population of approximately one-fourth of the Shiawassee District, while Ovid-Elsie is approximately one-sixth. The addition of these fractional portions to the projected populations should approximate the total of these districts if they choose to become a part of the alternative selected.

In Table LXXI the projections of Dr. Thaden and the Data Book are presented for the years 1967-68 to 1972-73. The recent study of high school seniors presented in Chapter II indicated that approximately 22 percent of the students surveyed indicated an interest in vocational-technical training at the secondary level. The first "Enrollment Potential" (428 and 451) represents 22 percent of the 1967-68 "Population Projection for Grades 11-12" in each of the two estimates.

TABLE LXXI

POPULATION PROJECTIONS* AND ENROLLMENT POTENTIAL

SECONDARY VOCATIONAL-TECHNICAL PROGRAM

	Dr. Thaden		Data Book 1965-66	
Year	Pop. Proj. Grades 11-12	Enrollment Potential	Pop. Proj. Grades 11-12	Enrollment Potential
1967-68	1,947	428	2,049	451
1968-69	2,019	464	2,121	488
1969-70	2,033	487	2,094	502
1970-71	2,063	516	2,164	541
1971-72	2,186	568	2,284**	594
1972-73	2,276	615	2,378**	641

COMMUNITY COLLEGE

	Dr. Thaden			Data Book 1965-66		
Year	Pop. Proj. Grades 9-12	Enrollment Potential		Pop. Proj. Grades 9-12	Enrollment Potential	
		Cons.	Lib.		Cons.	Lib.
1967-68	4,153	415	623	4,322	432	648
1968-69	4,257	511	724	4,466	535	759
1969-70	4,405	617	837	4,615	646	877
1970-71	4,532	725	952	4,813	770	1,010
1971-72	4,694	844	1,080	4,929**	887	1,134
1972-73	4,738	948	1,185	4,975**	995	1,244

*Population projections reflect the Shiawassee Intermediate School District only. The St. Johns and Ovid-Elsie Districts would increase the totals by one-fourth and one-sixth respectively.

**The data book does not provide projections for these years. These totals are estimated at 105% of Dr. Thaden's totals.

As programs develop and improve year by year, the enrollment usually demonstrates an increase. In this Study Area, however, 60 percent of the students indicated plans for college attendance. It is our estimate, therefore, that the increase in "Enrollment Potential" will be approximately one percent per year. For example, in 1968-69 (464 and 488) represents 23 percent of the "Population Projection" and in 1972-73 it will have increased to 27 percent. This correlates with the opinion that secondary programs of this type serve from 20 to 30 percent of eligible participants.

Several methods for predicting community college enrollment have been used in the State of Michigan as new institutions have been organized. One method derived from the experiences of recently formed community colleges suggests that a newly formed community college may expect an enrollment equalling 10 to 15 percent of the population of grades 9 through 12 in the schools served by the institution. On the community college portion of Table LXXI, the first figure in the "conservative" column (415 and 432) represents 10 percent of the "Population Projection for Grades 9-12," correspondingly the first figure in the "liberal" column (623 and 648) represents 15 percent. Therefore, using Dr. Thaden's projection one may observe that if the community college were to operate in 1967-68 it would serve between 415 and 623 students.

As a community college continues in operation and improves, it experiences growth similar to the vocational-technical program. In Michigan this growth has been at the rate of 2 percent per year. The "conservative" column in Table LXXI represents a growth from 10 percent to 20 percent and the "liberal" from 15 to 25 percent.

The remainder of the discussion on population will concern itself mainly with the work of Dr. Thaden, who is recognized as one of the leading demographers in the United States. One word of caution must be noted at this time. Dr. Thaden's projection for 1965-66 was 98.4 percent of the actual K-12 enrollment in the Shiawassee Intermediate District. The projections, therefore, are soundly derived but tend to be conservative.

Table LXXII represents a further refinement of the projections previously presented. The vocational-technical program is anticipated to serve students on a half day basis; therefore, only half of the student body would occupy the premises at one time. The figures in the column "Vocational-Technical Full-Time Equated Students" represent 50 percent of the "Enrollment Potential" based on Dr. Thaden's projection on Table LXXI.

TABLE LXXII

PROJECTIONS OF FULL-TIME EQUATED STUDENTS

Year	Vocational-Technical	Community College Cons.	Community College Lib.	Combined V-T and C.C. Cons.	Combined V-T and C.C. Lib.
1967-68	214	249	374	463	588
1968-69	232	307	434	539	666
1969-70	244	370	502	614	746
1970-71	258	435	571	693	829
1971-72	284	506	648	790	932
1972-73	308	568	711	876	1,019

Experience indicates that the number of "Community College Full-Time Equated Students" is approximately 60 percent of the number of persons served. Many community college enrollees are not full-time students. The figures in this column represent 60 percent of Dr. Thaden's figures in Table LXXI.

The column entitled "Combined V-T and C.C. Full-Time Equated Students" provides the population basis for the comprehensive alternative in Chapter VII. After much consideration and deliberation with persons knowledgeable in the field of community college development, it seems reasonable to expect a combined enrollment of 1,000 students within five years of operation.

Part III

Estimated Costs for Operation and Capital Outlay. In accordance with the regulating requirements of the State Department of Education, this study has drawn together pertinent data on financial resources and anticipated financial requirements of each of the alternatives. Financial requirements are of two types: operational expenditures (e.g. instructional salaries, administrative costs, maintenance, etc.); and capital outlay (e.g. site, building and equipment.)

Sources of Operating Funds. Several sources of funds are available to finance each of the alternatives suggested in Chapter VII. Initial consideration will be given to those sources which are outside the community and secondly, consideration will be given to sources of a local nature.

Primarily, external funds come from the State and/or Federal governments. Under the present plan in Michigan, however, Federal monies are administered through the State Department of Education and are indistinguishable from State monies. Presently, it appears that the secondary vocational-technical program will be reimbursed at 25 percent of operational costs under the Vocational-Education Act of 1963. There is presently no provision for any additional state aid reimbursement as there is in Ohio. Table LXXIII presents the costs as projected for the first years of operation. The current cost of secondary education per student in Michigan public schools seems to average near $400. Since the type of training proposed is more expensive, this study has allowed gross operational cost of $500 per student. Column D in Table LXXIII reflects the amount of money that must be raised locally to operate under the first alternative. No tuition may be charged the student at the secondary level.

TABLE LXXIII

SECONDARY VOCATIONAL-TECHNICAL PROGRAM

	A Full Time Equivalent	B Operating* Cost (A x $500)	C Federal-State Contribution 25% (.25 x B)	D Total to be raised locally
1967-68	214	$107,000	$26,750	$ 80,250
1968-69	232	116,000	29,000	87,000
1969-70	244	112,000	30,500	91,500
1970-71	258	129,000	32,250	96,750
1971-72	284	142,000	35,500	106,500
1972-73	307	154,000	38,500	115,500

*$500 per full time

The community college alternative has several possible sources of revenue. Presently a state aid formula provides a reimbursement to the district of $275 per student. There is currently a hope among community college personnel that this amount will be raised to $500 per student. In addition to state aid, there is a possibility that the community college may share in some of the Vocational Education Act funds in a manner similar to that presented for the vocational-technical education program above. Table LXXIV presents the state aid reimbursement in its present form on the top portion and the optimistic $500 formula on the bottom portion.

In addition to State-Federal monies, community college education is commonly financed in part from tuition charges paid by the student. It is estimated that a tuition charge of $250 per year would be an appropriate figure at this time. It is assumed that as of the year 1965-66 this is slightly high for resident tuition but is slightly low for non-resident tuition. In Table LXXIV, tuition is presented as a constant figure. It is hoped that this would be reduced with changes in the State financing plan.

TABLE LXXIV

COMMUNITY COLLEGE OPERATING COSTS

CONSERVATIVE PROJECTION

	A Full-Time Equated (Table LXXII Column)	B Est. Oper Budget $600 per Student (A x $600)	C State Contribution $275 per Student (A x $275)	D Student Tuition $250 per Year (A x $250)	E Local Responsi-bility (B-C-D=E)
		PRESENT CONDITIONS			
1967-68	249	149,400	$ 68,475	$ 62,250	$18,675
1968-69	309	184,200	84,425	72,750	22,625
1969-70	370	222,000	101,750	92,500	27,750
1970-71	435	261,000	119,625	108,750	32,625
1971-72	506	303,600	139,150	126,500	37,950
1972-73	569	338,400	156,475	142,250	39,675
		PROJECTED CONDITIONS			
		$800 per Student (A x $800)	$500 per Student (A x $500)		(B-C-D=E)
Same	Same	199,200	124,500	62,250	12,450
		245.600	153,500	72,750	15,350
as	as	296,000	185,000	92,500	18,500
		348,000	217,500	108,750	21,750
above	above	404,800	253,000	126,500	25,300
		455,200	284,500	142,250	28,450

LIBERAL PROJECTION

	V Full-Time Equated (Table LXXII Column)	W Est. Oper. Budget $600 per Student (V x $600)	X State Contribution $275 per Student (V x $275)	Y Student Tuition $250 per Student (V x $275)	Z Local (W-X-Y=Z)
		PRESENT CONDITIONS			
1967-68	374	224,400	102,850	93,500	28,050
1968-69	434	260,400	119,350	108,500	32,500
1969-70	502	301,200	138,050	125,500	37,650
1970-71	571	342,600	157,025	142,750	42,825
1971-72	648	388,800	178,200	162,000	48,600
1972-73	711	426,600	195,525	177,750	53,325
		PROJECTED CONDITIONS			
		$800 per Student (V x $800)	$500 per Student (V x $500)		(W-X-Y=Z)
Same	Same	299,200	187,000	93,500	18,700
		347,200	217,000	108,500	21,700
as	as	401,600	251,000	125,500	25,100
		456,800	285,500	142,750	28,550
above	above	518,400	324,000	162,000	32,400
		568,800	355,500	177,750	35,550

Another variable in studying finance is the cost per student. A survey of various operating community colleges indicates an average expenditure of about $600 per student. This average, however, has been rising each year. In order to account for the rise in future costs, a high estimate of $800 per student is incorporated into the Proposed Condition portion of Table LXXIV. Columns E and Z portray the local responsibility for the conservative and liberal enrollment projections respectively.

Operating Costs. Table LXXV includes the combined results of the operating costs of a vocational-technical program of Table LXXIII, the operating cost of the community college alternative of Table LXXIV, and the comprehensive program as the third alternative. One may observe that the secondary program is the most expensive per student served of any of the alternatives. Alternative I is designed to serve 615 individuals, Alternative II is designed for 1,185 individuals, and Alternative III is designed for 1,800 individuals.

Provision of Alternative I, the Vocational-Technical Center, would require an authorization to levy slightly over a half a mill up to three quarters mill (.52 mill - .25 mill) for operational purposes. Alternative II, Community College, would require a millage authorization up to .35 mills by 1972-73. Operating costs for implementing Alternative III, Combination of Community College and Vocational-Technical Center, would require an authorization levy up to 1.1 mills at the most by 1972-73.

TABLE LXXV

PROJECTED COSTS OF OPERATION (MILLAGE REQUIREMENTS)

	Alternative I Vocational-Technical	Alternative II Community College		Alternative III V-T and C.C. Comprehensive	
		Cons.	Lib.	Cons.	Lib.
		PRESENT CONDITION			
1967-68	$ 80,250 (.52m)	18,675 (.12m)	28,050 (.18m)	$ 98,925 (.64m)	$108,300 (.70m)
1968-69	87,000 (.56m)	22,625 (.15m)	32,500 (.21m)	109,625 (.71m)	119,500 (.77m)
1969-70	91,500 (.59m)	27,750 (.18m)	37,650 (.28m)	119,250 (.77m)	129,150 (.83m)
1970-71	96,750 (.62m)	32,625 (.22m)	42,825 (.28m)	129,375 (.84m)	139,575 (.90m)
1971-72	106,500 (.69m)	37,950 (.24m)	48,600 (.32m)	144,450 (.93m)	155,100 (1.01m)
1972-73	115,500 (.75m)	39,675 (.25m)	53,325 (.35m)	154,800 (1.00m)	168,450 (1.10m)
		PROJECTED CONDITION			
Same	Same	12,450 (.08m)	18,700 (.12m)	92,700 (.60m)	98,950 (.64m)
		15,350 (.10m)	21,700 (.14m)	102,350 (.66m)	108,700 (.70m)
as	as	18,500 (.12m)	25,100 (.16m)	110,000 (.71m)	116,600 (.75m)
		21,750 (.14m)	28,550 (.19m)	118,500 (.76m)	125,300 (.81m)
above	above	25,300 (.16m)	32,400 (.21m)	131,800 (.85m)	138,900 (.90m)
		28,450 (.18m)	35,550 (.22m)	143,575 (.93m)	150,675 (.97m)

Capital Outlay. In order to project plans for a facility of sufficient size to accomodate vocational-technical training at the various levels, it was necessary to find some institution that had experience in this type of development. Jackson Community College is currently engaged in such a building program. The following estimates are based upon the costs which they have experienced. Student enrollment projections used are based upon liberal suppositions.

TABLE LXXVI

ESTIMATED COST OF FACILITIES FOR EACH OF THREE ALTERNATIVES

Alternatives	Construction Costs
Alternative I	
Vocational-Technical High School	
Number of Equated Full-time students	300
Square foot allowance per student	x 150 sq. ft.
	45,000 sq. ft.
Estimated cost $18 const. & $6 equip.- $24 per sq. ft.	x 24.00
	$1,080,000
Alternative II	
Community College	
Number of Equated Full-time students	700
Square foot allowance per student	x 150 sq. ft.
	105,000 sq. ft.
Estimated cost $18 const. & $4 equip.- $22 per sq. ft.	x 22.00
	$2,310,000
Both Alternatives	
Developed Separately	
Vocational-Technical	$1,080,000
Community College	2,310,000
	$3,390,000
State and Federal Share	1,695,000
Local Share	$1,695,000
Alternative III	

1,000	Student Voc.-Tech. and Community College
150	sq. ft. per student
150,000	
23.00	per sq. ft.
$3,450,000	
575,000	1/6 allowed for overlap (125,000 total sq. ft.)
2,885,000	
1,442,500	State and Federal share
$1,442,500	Local share

Table LXXVII presents one possible schedule for financing the comprehensive Alternative III. Since this is the most expensive of the capital outlay proposals, it represents the highest necessary millage. Either of the other two alternatives would require less millage than that represented in this table. For ease of calculation a level assessment of .6 of a mill will finance $1,450,000 for 27 years.

TABLE LXXVII

AMORTIZATION OF $1,450,000 AT 4% FOR 27 YEARS

Year	Principal	Interest	Millage
1966	$35,000	$58,000	.60
1967	35,000	56,600	.59
68	35,000	55,200	.58
69	35,000	53,800	.57
70	36,000	52,400	.57
71	37,000	50,960	.57
72	38,000	49,480	.57
73	40,000	47,960	.57
74	41,000	46,360	.57
75	43,000	44,720	.57
76	44,000	43,000	.57
77	46,000	41,240	.57
78	48,000	39,480	.57
79	50,000	37,560	.57
80	52,000	35,560	.57
81	53,000	33,480	.56
82	55,000	31,360	.56
83	57,000	29,160	.56
84	60,000	26,880	.56
85	62,000	24,480	.56
86	65,000	22,000	.57
87	70,000	19,400	.58
88	75,000	16,600	.59
89	80,000	13,600	.60
90	80,000	10,400	.58
91	85,000	7,200	.58
92	93,000	3,720	.62

Conclusion. A summarization of the results of Table LXXV, Alternative III, and the information of Table LXXVII indicates that a level assessment of one and a half mills should provide sufficient financial support for combined Vocational-Technical Secondary Program and Community College to serve the Shiawassee-Clinton Study Area during the initial years of operation.

CHAPTER IX

Site Criteria and Recommendations. One of the most significant aspects of planning for a vocational-technical center-community college is selection of site. The selection must be based upon the demographic and soil characteristics of the area being considered. In addition, the selection of site is dependent upon certain political considerations. Current legislation does not allow the Clinton County portion of the Study Area to participate in an election for support of such an institution. However, these districts may utilize the facility through contracted arrangements or annexation after it is established. Presently the St. Johns School District of Clinton County is preparing to vote on annexation to the Lansing Community College District on June 12, 1966. Therefore this chapter will concentrate on the establishment of an institution based only upon the data of the Shiawassee Intermediate School District and will exclude Maple Grove Township, Saginaw County, New Lothrop School District, which is a part of the legally constituted Delta Community College District.

Criteria for the Evaluation of Vocational-Technical Center and Community College Sites. The selection of a site for an institution of the type proposed is a decision of the first magnitude. This decision will determine the character and nature of the educational program developed initially and will dictate possible expansion for the unforeseeable future. It is essential, therefore, that criteria be adopted which will lead the elected board of this institution to a sound and judicious decision.

The Study Committee has reviewed the available literature on site selection which has been developed for recently established community colleges in Michigan. A recent study for the Clare-Gladwin Community College conducted by Dr. Max S. Smith, Michigan State University and Dr. Raymond J. Young, University of Michigan, has proposed a system of external and internal criteria. These criteria were adopted by the Shiawassee-Clinton Area Steering Committee at a meeting on April 12, 1966.

"Criteria are of two types, external and internal. The external type concerns itself with location and placement within the total Intermediate District. Basic assumptions underlying criteria of this type are that all people, wherever they live, are of equal worth and they should be served under conditions that are as nearly equitable as possible. These criteria are related to accessibility in terms of time and miles from place of residence. Internal criteria relate to characteristics within the site after it has been placed to objectively judge the sites considered in this survey. The following criteria have been established, based upon experience and the best authoritative judgements available.

A (Vocational-technical Center and) Community College site should be:

External Criteria

1. Located so that the total number of miles to be traveled by prospective students will be held to a minimum (i.e. near the population and geographic centers) but in proximity to the area of greatest population density.

2. Located so that surrounding land is available for future expansion.

3. Located so as to achieve maximum accessibility by well surfaced roads.

4. Located a sufficient distance from other educational institutions (i.e. junior and senior high school sites) and industrial developments, to avoid traffic congestion during periods of heavy vehicular movement.

5. Located where water, electricity, sanitary disposal facilities, and public services exist, or can be obtained at a reasonable cost.

6. Political considerations and general orientation to service area.

7. Located amid surroundings that are attractive and pleasant and that generate feelings of pride and inspiration (visible to the mainstream of local area resident movement).

Internal Criteria

8. Large enough to contain the facilities necessary for a comprehensive community college (and vocational-technical) program.

9. Free from obnoxious odors, disturbing noises, air traffic patterns, and excessive dust, or noise resulting from heavy motor vehicles or railway traffic.

10. Sufficiently elevated to insure proper drainage.

11. Reasonably compact, preferable of a rectangular shape.

12. Characterized by sub-surface conditions which will support heavy structures.

13. Characterized by a gently rolling contour and capable of being developed without excessive costs.

14. Free from traversal by any major thoroughfare carrying vehicular traffic.

15. Free from barriers such as rivers, quarries, or railroads segmenting the site.

16. Available at a reasonable original cost."[1]

Areas to be Examined. As an aid to selecting a site according to the external criteria discussed above, three foci have been located within the Intermediate District boundaries. The first of these (Number 1 on accompanying map) locates the approximate geographic center of the portions of the Intermediate District to be served by the institution. The geographic center is located on Hibbard Road slightly east of the intersection of Cook and Hibbard Roads.

The second consideration is the center of population (number 2 on the accompanying map), determined according to the 1960 Census information. Dr. John Thaden of Michigan State University, assisted in computing this focus which lies approximately on Vandekarr Road at a point .8 of a mile east of the east-west dividing line, the township boundary separating Bennington and Shiawassee Township; and .7 of a mile south of the north-south dividing line, the township boundary separating Caledonia and Shiawassee Township.

The third denotation (number 3 on the accompanying map) serves two purposes: (a) it indicates the area of highest population concentration, and (b) it marks the focus of the major state highways and better county roads in the Intermediate District.

Recommendations. It is recommended that the selection of a site for this proposed institution be primarily concerned with Area I on the accompanying map. This represents an area of approximately one hundred square miles which would include the three foci discussed above. This area has as its center the junction of Michigan State Highways 21 and 47. The boundaries are roads located approximately five miles north, east, south, and west of this center; more specifically Riley Road, Kirby Road, Garrison Road, and Baldwin Road respectively.

Area II is presently less desireable but should be considered in light of developing population patterns. Area II boundaries are approximately 8 miles from the center designated in Area I and generally follow: Johnstone Road on the north; Reed Road on the east; Miller Road on the south, and Meridian Road on the west.

It is further recommended that the following needs be met in site selection:

1. Floor space containing approximately 125,000 square feet, or 3-4 acres would be needed.

2. Architects indicate that to provide space for walks, drives, lawns, landscaping, and services, an area about six times the space covered by buildings is a minimum. This would require 18-24 acres.

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[1] "Clare-Gladwin Community College Site Study." January, 1966, PP. 27-28.

3. At least 60 percent of the students will commute by private automobile. Parking space will be approximately 6-8 acres.

4. Adequate physical education and intra-mural athletic fields, (baseball, track, tennis, football, field hockey, etc.) will require 20 acres.

5. The initial purchase of land will be the least expensive to the community college board of trustees. Therefore, it seems advisable to acquire sufficient land to allow for expansion in the future. The Study Committee recommends that the site selected be of adequate size (not less than 150 acres, and more realistically, approximately 250 acres) to provide for expansion and control of the institution's environment.

The criteria and recommendations presented in this chapter are intended only as an aid to further consideration by a legally constituted board of trustees. They should in no way be construed to be a definite proposal for location of the new institution. The board of trustees, when it has been empowered, will undoubtedly have more current data upon which to act.

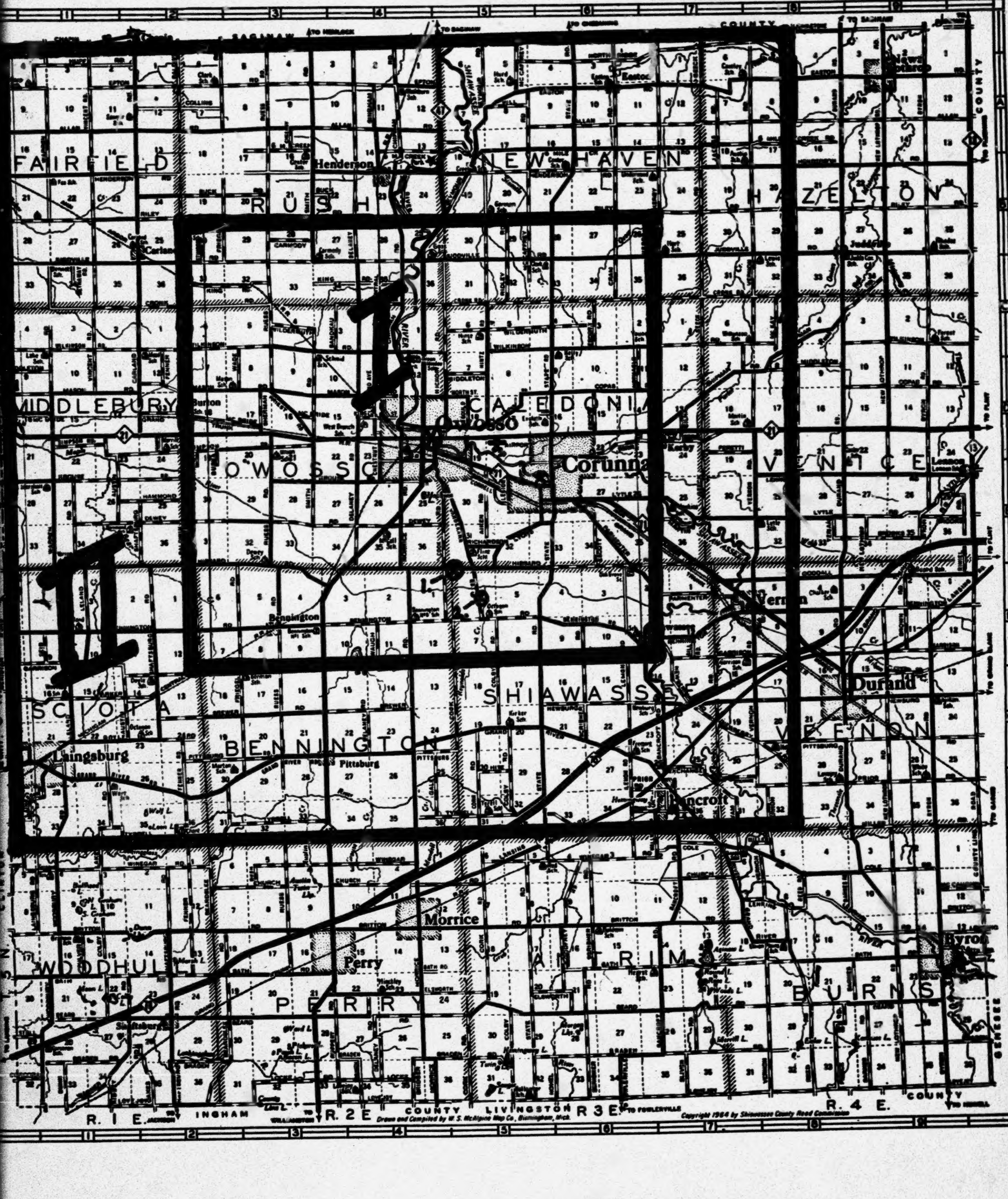
MAP EXPLANATION
State Highways
ace Roads
ds
d Roads
ls

SHIAWASSEE COUNTY
MICHIGAN
Road Map

Scale in Miles

AREA I
AREA II
⊗ 1 geographic center
⊗ 2 population center
⊗ 3 highest population center; focus of major roadways

BOARD OF
COUNTY ROAD COMMISSIONERS
George H. Warren
William Dunnemann Robert N. Stewart
F. W. Des Autels
Engineer
112 East McArthur Corunna, Mich.



SAGINAW COUNTY
FAIRFIELD
RUSH
NEW HAVEN
HAZELTON
MIDDLEBURY
CALEDONIA
OWOSSO
VENICE
SCIOTA
SHIAWASSEE
BENNINGTON
VERNON
WOODHULL
PERRY
ANTRIM
BURNS
Henderson
New Lothrop
Owosso
Corunna
Lennon
Vernon
Durand
Laingsburg
Pittsburg
Bancroft
Morrice
Perry
Byron
Shaftsburg
Bennington
I
II
1
2
3
R. 1 E.
R. 2 E.
R. 3 E.
R. 4 E.
INGHAM
COUNTY
LIVINGSTON
COUNTY
GENESEE COUNTY
Drawn and Compiled by W. S. McAlpine Map Co., Birmingham, Mich.
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CHAPTER X

SUMMARY, CONCLUSIONS, RECOMMENDATIONS

Summary of General Characteristics of the Area.

1. Residents of Clinton and Shiawassee Counties have shared a common history, an agriculturally based heritage and economy, and an emerging industrial development.

2. Population of the study Area has followed a slow steady growth pattern, the rate of which has been less than for the state as a whole.

3. Slightly more than a third of the population in the study Area was under age fifteen in 1960, and 48 percent is under age twenty-five. An eighth of the population was under age five.

4. The age, sex, and marital status composition of the population in the study Area closely resembles that for the state.

5. Although a higher proportion of Shiawassee County residents are rural, non-farm than is true of the state as a whole, the trend is for an increase in rural, non-farm residents, and a decrease in the percent of those classed as rural farm. While the numbers of acres in farming is decreasing, the income from farm products has tended to increase.

6. Population is highly stable.

7. Shiawassee has experienced a lower rate of unemployment than has the state; median family income is lower; and the percent of families with incomes over $10,000 is significantly lower.

8. Shiawassee County is served well by good systems of transportation and communication, but basic utilities and facilities for water supply and sewage disposal are provided on an individual basis.

9. Industrial growth, especially during the last decade, has been accompanied by a steady increase in equalized assessed valuation which currently is approximately $156 million.

10. The percent growth in retail sales during the last decade was less than for the state or Clinton County, but the percent, growth in number of establishments providing goods and services increased about 68 percent which was more than it was for the state.

11. The Area seems well served by welfare and recreational services, but it may not be as well serviced by medical services as is the state as a whole; the ratio of medical doctors, hospital beds, etc., per 1000 population is greater than in other areas.

12. Although agricultural income is upward, the percent of persons residing in rural farm areas who engage in agriculture is declining.

Summary of Seniors' Responses.

13. The vast majority of the 1146 seniors, in the Shiawassee-Clinton County Study are long-time residents. Seventy-seven percent have lived here ten years or more, 86 percent from six to ten years, and 92 percent from three to six years.

14. According to seniors' vocational plans, an Area Vocational-Technical School might apply to about 20 percent of all senior boys and to 31 percent of all senior girls. This was a total of 293 seniors or 26 percent of the total group responding.

15. According to definite and probable plans for college, area facilities for training beyond high school might attract 17 percent of all seniors or 22 percent of the boys and 13 percent of the girls. This group consists of those who intend enrollment in area community colleges, or a college with a vocational emphasis.

16. The majority of seniors have shown financial need and/or vocational-technical interest by way of part-time work while attending high school. Seventy-four percent of the boys and 53 percent of the girls so indicated.

17. About 18 percent of all seniors, or 203, said more money would or might cause them to plan college attendance. Forty-five percent of these said they need enough to pay all their expenses, 44 percent, half their expenses ($600), and 7.5 percent, less than half. Twenty-eight percent of those not going to college, or 60 in number, said their family's income provided only the necessities or less, as did 18 percent of those probably not going.

18. Parents in the study area generally have a favorable attitude toward continued education--85 percent of all seniors saw their parents either wanting them to go on if they wanted to, or insisting or expecting them to. In contrast, one percent of all seniors said their parents did not want them to attend college.

19. A high correlation exists between the family relatives' level of education and seniors' plans to attend college. Over 50 percent of those definitely not going to college said their mothers had not finished high school, as compared to 76 percent of those with definite plans for college who said their mothers had had some form of post-high school education. The educational experience of near relatives supported the correlation.

20. Of seniors indicating long range occupational interests in the office-clerical-secretarial field and work as a salesman, 34 and 45 percents had no plans for continuing their formal education. This was true for 68 percent of seniors who want to be a factory foreman or worker, 47 percent of girls who hope to be a housewife, and 50 percent of boys who expect to enter the military service. Ninety-eight percent of seniors who aspire to one of the professions other than nursing have plans which either definitely or probably include college.

21. While 65 percent of all seniors said they were interested in advanced study in their occupational interest, 78 percent of all seniors indicated occupational aspirations for which there might be some need for further training--49 percent in vocational-technical training areas and 29 percent in professions (other than nursing).

22. Of the 413 seniors without definite or probable plans for college, 61 percent, or 252, indicated interest in advanced vocational-technical training for the first two years of college work; 39 percent, or 161, said they would be interested in neither. This latter group shrunk to 22 percent when a paid type of advanced training was put to them; this was composed of 13 percent of the boys and 31 percent of the girls.

23. About 12 percent of the 213 seniors definitely not planning college attendance perceive their academic rank to be in the top third of their class, 52 percent in the middle third, and 32 percent in the lower third. Twenty-eight percent said their reason for not wanting to continue their education was their desire to work and make money. Fourteen percent said that college was too expensive, 23 percent gave inability to make good enough grades (almost twice as many boys gave this as girls--30 percent and 17 percent, respectively), ten percent gave marriage as their reason, and the remainder indicated various other reasons.

24. Present high school curriculums show large enrollments in the general curriculum among those unlikely to continue their education. This includes 53 percent of the boys and 31 percent of the girls definitely not planning college, and 84 and 77 percents, respectively, of those probably not going. Among the definitely non-college bound alone, the balance was enrolled largely in vocational-technical curriculums with the exception of about five percent who were enrolled in college preparatory, and about six percent responding "other," or giving no response.

25. Sixty-nine percent of all seniors felt their high school preparation was very good in some ways but could have been better in others, or that it was giving them just what was needed. Girls showed a general tendency to have higher regard for their preparation than did boys, as did those seniors definitely not planning college attendance, this latter group, though, also tended to have the lowest regard for their preparation.

26. Fifteen percent of all seniors, or 12 percent of the boys and 18 percent of the girls, felt they had received all the help needed in occupational and educational guidance. The most satisfied were those planning college attendance--14 percent of these boys and 25 percent of these girls. The least satisfied were those boys probably not planning college attendance, 40 percent of them, and those girls definitely not, 28 percent of them.

27. As to school services and facilities, information on going to college was rated "good" by the most--45 percent of all seniors--while someone to confide in about personal problems was rated "poor" by most--53 percent. Other services and facilities were rated "fair" by most. Generally, the more help seniors had received from school services and facilities, the better they rated them; and conversely, the less help they had received, the poorer they rated them.

28. Expressed interests of seniors indicated the need for post high school educational programs in (1) liberal arts, (2) nursing, (3) office-secretarial-clerical, (4) service worker, (5) cosmetology, (6) pre-professional, (7) drafting and design, (8) salesmanship, (9) laboratory technology, (10) art, and (11) agriculture.

Summary of Graduates' Responses.

29. Seventy-nine percent of the 416 graduates responding were Area residents. While sixty percent indicated formal schooling beyond high school, 84 percent indicated some type of additional training or education. Sixteen percent said they were presently commuting to school.

30. About 62 percent of the respondents indicated present employment in a full-time paying job, with about half making more than $100 per week, and half making less.

31. Of all respondents, 12 percent indicated their reason for not going to school to be financial, 3 percent indicated lack of available opportunity, and 2 percent, lack of college preparation in high school. Twenty-four percent indicated they might have continued education if financial assistance had been available.

32. About 78 percent of graduates believed their parents either wanted them to go to college if they wanted to, or insisted that they go.

33. About 70 percent, or 286 graduates, indicated they would have been interested in semi-professional or vocational training in the area, had it been available when they graduated. About 34 percent, 145, said they would have been interested in attending a trade or vocational school, or community college if they had had the opportunity following high school graduation.

34. The large majority of graduates from all curricula but homemaking have had further training or education of some kind. With the exception of those in a college preparatory curriculum who went on to college, at least an equal number had on-the-job training.

35. Present interests of graduates would indicate the need for educational programs in business education, law enforcement, liberal arts, pre-teaching, automotive technology, nursing, trade apprenticeship training, mechanical technology, agriculture, and electrical technology.

36. About 13 percent of the graduates indicated the reason they did not have high school vocational education to prepare for a job was the lack of vocational education offerings in the high school. Twelve percent indicated the specific occupational course desired was not offered, and about 5 percent indicated they did not see the value of such a program.

37. About 81 percent of the graduates who went on to college said their high school preparation was very good, or fair as compared to 64 percent of those who entered employment who said their high school preparation was very good or fair. A larger proportion of those who entered employment indicated their high school preparation to be excellent than did college enrollees.

38. About 72 percent of the graduates felt their high schools gave them "some but not much," or "little or no help" in selecting an occupation.

39. The largest proportion of graduates felt their high school services and facilities were "fair": library materials and information on vocations, offering many courses to choose from, and information on going to college were so designated. Social activities were rated "good" by more graduates, while someone to confide in about school problems, and someone to confide in about personal problems were rated "poor."

Summary of Parents' Responses.

40. Data from the parental questionnaire concur with the findings of the surveys previously presented. The initial findings portray general characteristics similar to those of high school seniors in 1965 and the graduates of 1960 and 1962. The survey found that 72 percent of the parents of fifth graders lived in the Area at least ten years, and 48.7 percent of the parents attended Area high schools. In viewing the employment pattern, it was found that 53.7 percent are employed within, while 45.9 percent commute to jobs outside the Study Area. The survey also discovered that 79 percent of the parents were wage or salary workers.

41. The parents were asked to express their present post-high school expectations for their son or daughter. Approximately one-third indicated they expected the child to attend a four-year college or university, while one out of four parents selected advanced training of less than a baccalaureate degree.

42. The questionnaire sought the opinions of parents on several items regarding the development of vocational-technical education programs. Almost 70 percent of the parents thought such a program "would keep more students in school longer." When asked, "If quality vocational programs were available ....., would you be interested...?", 63.8 percent of the parents indicated an interest in either a day or evening program.

43. When asked whether there was a need for offering additional vocational programs, 59.5 percent said "yes," while 29.2 percent "Didn't know." Further, the survey demonstrated that 32.2 percent favor a cooperative effort by the ten school districts in the Study to provide additional educational programs, 22.2 percent advocate expansion within each separate school district, and 25.9 percent "Don't know" what would be best.

44. Interest areas for study identified by parents would seem to indicate need for educational programs in general self improvement and job upgrading, nursing, business education, automotive technology, drafting, data processing, welding, and machine shop, apprenticeship education, medical technology, mechanical technology and electronic technology.

45. Parents of children for whom the expectation is work or a trade or technical school feel the high school is not preparing youth as well for what they plan to do after graduation as parents of children for whom the expectation is college or university or community college.

Summary of Responses from Employers.

46. Under half of the large firms responding reported high school graduates to be well prepared for entry employment. About one-third of the small firms shared this reported assessment.

47. Nearly half of the large firms reported that high school graduates need additional training to a considerable degree to be employable. Slightly less than one-third of the small firms shared this opinion.

48. Twelve percent of all firms reporting stated that high school graduates were suited for only unskilled labor. Twenty-three percent of the small firms view high school graduates as virtually unemployable. No large firm stated this opinion.

49. Non-high school graduates were described by even more sharply defined opinions. Over half the large firms reported this group as unsatisfactory for employment. Forty-four percent of the small firms reported high school dropouts as unsatisfactory for employment. Of all firms, 29.7 percent found this group employable, but in need of much additional training. Less than a quarter of all firms reporting presented the opinion that high school "dropouts" can perform satisfactorily when employed.

50. Job entry patterns reflect the fact that thirty firms in the Area "Almost Never" employ "Dropouts" even at the unskilled level. Job entry opportunities for the high school graduate are greater than for the dropout in all job categories, and this is a consistent pattern throughout the nation.

51. Employer-sponsored training is offered by fifty-six firms. Training includes eighty-eight specific programs. Most frequently offered are apprenticeship and supervisory training.

52. Two-thirds of the responding firms expressed interest in participating to develop improved vocational-technical education at both the high school and post-high school level.

53. Approximately the same number of Area firms favored the expansion of vocational education programs in existing high schools as favored the creation of an Area vocational-technical facility. The proposition of creating an Educational-Technical Institute for both academic and vocational training was least desired by the Area employers.

54. In an assessment of Area employment needs and conditions, several "job areas revealed the present labor supply to be scarce and increases in the need for these employees to be imminent. This is particularly true in sales, service and business education in general.

55. Scarcity of available qualified employees and projected increases for the future give clues for the need of training programs for auto mechanics, machinists, welders, machine operators and assembly line workers. Service station attendants with technical knowledge, auto body repairmen, and building trades were indicated as needed.

56. Post-high school level programs in industrial supervision, nursing, drafting and design, business (sales and management), accounting, electrical technology, and industrial technology seem indicated.

Summary of Present Vocational Offerings.

57. The size of the school dictates the variety of opportunities from which an individual student may choose. However, the larger schools have indicated that their number of students and the limitations of finances hinder the development of their programs. Another factor mentioned most often by administrators in the Area schools is the difficulty of finding qualified instructors in particular fields of vocational education.

58. Home economics and vocational agriculture are the two fields most comprehensively offered in the schools of the Area. Most schools offer at least four years of training in these fields.

59. Office occupation programs are fairly well developed,in that all schools offer at least two years of typing, a year of bookkeeping and a year of shorthand. The smaller schools do not appear to offer experience in more advanced business machines or office procedures.

60. Trade and Industry programs are not comprehensive, nor are course offerings extensive in most occupational areas, in the Study Area schools. The smaller schools tend to offer drafting and basic shop work in wood, plastics and sheet metal,while some of the larger schools have expanded their programs to include experience in the fields of electronics, automotive repair, power mechnaics and advanced drafting.

61. Distributive education is the least well developed program among the Study Area schools. Retailing courses are offered in Owosso and Corunna only.

62. While other Federally sponsored programs such as practical nursing (related health occupations) and highly technical occupations may be applicable to the needs of the Area, no programs are presently being offered in Shiawassee or Clinton Counties.

63. The Community Colleges of Ingham County and Flint offer courses which may provide vocational-technical education opportunities to the residents of this Area. (These may not be available to us in the future). The terminal educational programs offer opportunities at both the skilled craftsman level (e.g. welding, auto body repair, bricklaying, electronics, etc.) as well as the technologies (e.g. chemical, civil, computer electronics, etc.). Certain disadvantages have been expressed by Study Area employers with regard to utilizing these institutions for upgrading their employees.

64. Although the in-school vocational education program in the Study Area is currently functioning on a somewhat limited basis, the program for out-of-school youth and adults has not yet been developed by any of the schools,except Owosso.

Conclusions.

1. Shiawassee County is in a transition stage from an agricultural economy to an industrial one. As a consequence of trends under way, various sociological changes are expected within the next several years which will have educational implications.

2. Need exists for additional occupational education at the high school as well as at the post-high school levels in the Study Area.

3. Although the courses offered by the Study Area schools prepare some students for entrance into occupational fields, most of the programs are not truly vocational education in design, for they lack breadth of offerings or depth of experience.

4. Educational programs needed are those in, (1) service occupations, (2) nursing, (3) drafting and design, (4) business administration and salesmanship, (5) secretarial-clerical-office, (6) laboratory technology, (7) art (commercial), (8) cosmetology, (9) automotive mechanics and technology, (10) agriculture, (11) electrical and electronic technology, (12) trade apprenticeship training, (13) law enforcement, (14) pre-professional and liberal arts, (15) mechanical technology, (16) data processing, (17) medical technology, (18) welding and machine shop, (19) general self improvement and job upgrading work, (20) industrial technology, and (21) industrial supervision.

5. An Area Vocational-Technical Center and community college could be reasonably expected to serve 1500-2500 individuals in the forseeable future, 500 of whom would be high school level students.

6. The most educationally efficient and financially economical means of providing the full range of occupational education needed, is a combination community college and Area Vocational-Technical center. This alternative for action was unanimously adopted by the executive committee after considerable deliberation and study, subsequent to the consultant's recommendation to that effect.

7. A levy of one and a half mills on the equalized assessed valuation of Shiawassee Intermediate District should provide sufficient financial support, along with state and federal funds, for a combined Area vocational-technical secondary school and community college to serve the Shiawassee-Clinton Study Area.

Recommendations. Based upon the findings of the study and pursuant to the conclusions reached, it is recommended that:

1. Action be taken to establish a Community College-Area Vocational Technical Center in Shiawassee County.

2. A local levy authorization of at least one and a half mills be sought for the purpose of establishing, operating, and maintaining such a facility.

3. The facility be operated by the Board of Trustees duly elected for the Community College.

4. The Vocational-Technical Center-Community College be located in the area identified by the study committee after careful study and application of Criteria for location of such a facility.

APPENDICES

Included in the appendices are the census reports of the population, age distribution, sex composition and marital status of the residents of Michigan, Shiawassee County, and certain parts of Saginaw County and Clinton County.

APPENDIX A

Population of Michigan, Shiawassee County, Maple Grove Township, Saginaw County city of St. Johns and Nine Townships in Clinton County: 1900 to 1960

	1960	1950	1940	1930	1920	1910	1900
Michigan	7,823,194	6,371,766	5,256,106	4,842,325	3,668,412	3,810,173	2,420,932
Shiawassee County:							
Antrim Twp.	890	807	801	726	760	810	904
Bennington Twp.	1,447	1,241	1,146	1,070	1,033	1,031	1,287
Burns Twp.	1,636	1,317	1,347	1,241	1,157	1,332	1,463
Caledonia Twp.	3,434	2,557	1,870	1,660	1,264	1,404	1,383
Fairfield Twp.	837	761	733	739	794	885	985
Hazelton Twp.	1,746	1,614	1,528	1,487	1,461	1,595	1,747
Middlebury Twp.	1,043	817	808	768	740	794	848
New Haven Twp.	1,229	1,231	1,244	1,233	1,338	1,411	1,599
Owosso Twp.	2,989	1,776	1,400	1,357	1,273	1,230	1,175
Perry Twp.	3,170	2,775	2,296	1,985	1,864	1,977	1,967
Rush Twp.	1,305	1,180	1,096	1,132	1,063	1,131	1,238
Sciota Twp.	(1912) 855*	1,640	1,544	1,324	1,332	1,384	1,430
Shiawassee Twp.	2,051	1,797	1,676	1,471	1,447	1,517	1,610
Venice Twp.	1,893	1,435	1,328	1,358	1,192	1,201	1,341
Vernon Twp.	3,138	2,466	1,935**	4,909	4,314	3,772	3,878
Woodhull Twp.	1,644	1,053	887	625	746	749	805
Corunna City	2,764	2,358	2,017	1,936	1,571	1,384	1,510
Durand City	3,312	3,194	3,127**	3,081	2,672	2,315	2,134
Laingsburg City	1,057*						
Owosso City	17,006	15,948	14,424	14,496	12,575	9,639	8,696
Saginaw County:							
Maple Grove Twp.	1,882	1,550	1,387	1,330	1,418	1,382	1,610
Clinton County:							
Bengal Twp.	893	845	925	863	874	980	1,045
Bingham Twp.	1,356	1,153	1,058	893	994	994	1,064

	1960	1950	1940	1930	1920	1910	1900
Duplain Twp.	2,075	1,979	1,840	1,735	1,768	1,761	1,831
Essex Twp.	1,377	1,358	1,271	1,247	1,229	1,355	1,482
Greenbush Twp.	1,336	1,253	1,143	1,149	1,138	1,180	1,400
Olive Twp.	1,418	1,142	1,012	945	958	963	1,122
Ovid Twp.	2,795	2,435	2,328	2,197	2,183	2,189	2,555
Riley Twp.	982	896	867	875	906	1,107	1,155
Victor Twp.	1,236	976	898	769	858	853	999
St. Johns City	5,629	4,954	4,422	3,929	3,925	3,154	3,388

*Laingsburg received its mumicipal charter in 1951

**Durand received its municipal charter in 1932

APPENDIX B

Age Distribution of the Population of Michigan, Shiawassee County, Maple Grove Township of Saginaw County, of Clinton County: 1960

	AGE							
	Under 5	5-14	15-24	25-34	35-44	45-54	55-64	65+
Michigan	969,147	1,662,649	1,011,261	1,012,650	1,064,373	859,496	645,434	638,184
Shiawassee County:								
Antrim Twp.	105	219	127	82	126	87	60	84
Bennington Twp.	213	286	186	183	160	141	142	136
Burns Twp.	189	386	233	154	222	162	130	160
Caledonia Twp.	448	769	438	492	437	364	226	260
Corunna City	315	543	359	336	337	294	209	371
Durand City	414	675	427	411	415	324	279	367
Fairfield Twp.	101	190	123	89	105	76	74	79
Hazelton Twp.	215	408	274	190	210	170	133	146
Laingsburg City	140	234	150	134	109	101	76	113
Middlebury Twp.	120	218	154	112	120	141	75	103
New Haven Twp.	123	282	173	134	154	131	99	133
Owosso City	2,025	3,587	2,219	2,073	2,249	1,744	1,314	1,795
Owosso Twp.	374	657	390	432	377	282	255	222
Perry Twp.	437	730	458	396	351	293	213	292
Rush Twp.	167	287	153	162	164	116	125	131
Sciota Twp.	92	218	124	108	102	87	58	66
Shiawassee Twp.	275	461	276	273	261	185	152	168
Venice Twp.	263	446	224	270	233	189	116	152
Vernon Twp.	394	685	448	404	396	283	241	287
Woodhull Twp.	235	415	206	226	211	149	87	115

	Under 5	5-14	15-24	25-34	35-44	45-54	55-64	65+
Saginaw County:								
Maple Grove Twp.	292	517	312	198	176	157	109	121
Clinton County:								
Bengal Twp.	127	230	108	112	87	93	57	79
Bingham Twp.	199	299	210	154	171	99	125	99
Duplain Twp.	224	361	305	212	253	239	135	246
Essex Twp.	148	334	207	144	139	155	92	158
Greenbush Twp.	166	333	170	167	145	126	106	123
Olive Twp.	237	309	167	187	187	121	112	98
Ovid Twp.	332	613	366	330	303	297	234	320
Riley Twp.	140	185	153	131	103	110	84	76
Victor Twp.	162	318	178	127	165	124	93	69
St. Johns City	648	1,216	699	680	670	603	435	678
Shiawassee-Clinton Area	9,320	16,411	10,017	9,103	9,138	7,443	5,646	7,247

Source: U.S. Bureau of the Census. U.S. Census of Population: 1960. Vol. 1. Characteristics of the Population. Part 24, Michigan, Tables 16, 26, and 27.

APPENDIX C

Age Distribution of the Male Population of Michigan, Shiawassee County, Maple Grove Township, Saginaw County, Clinton County: 1960

	AGE							
	Under 5	5-14	15-24	25-34	35-44	45-54	55-64	65+
Michigan	493,131	826,519	485,447	496,360	522,111	431,493	327,013	300,794
Shiawassee County:								
Antrim Twp.	58	98	66	41	67	47	34	42
Bennington Twp.	99	147	95	93	84	68	75	72
Burns Twp.	89	188	122	77	106	80	77	78
Caledonia Twp.	222	418	220	238	205	196	117	136
Corunna City	161	274	176	168	162	152	101	153
Durand City	204	347	205	211	208	155	140	162
Fairfield Twp.	49	101	60	43	54	38	37	42
Hazelton Twp.	108	204	138	95	108	88	71	73
Laingsburg City	62	114	77	67	53	49	39	47
Middlebury Twp.	66	116	85	48	65	78	37	57
New Haven Twp.	71	160	92	59	78	69	49	67
Owosso City	1,064	1,786	1,052	998	1,080	861	585	754
Owosso Twp.	177	306	190	221	196	134	127	113
Perry Twp.	224	364	231	187	183	154	105	130
Rush Twp.	79	164	70	80	86	55	74	67
Sciota Twp.	34	123	68	57	51	45	34	38
Shiawassee Twp.	155	247	133	139	136	80	76	77
Venice Twp.	135	219	110	126	120	92	65	74
Vernon Twp.	190	353	222	190	209	139	125	139
Woodhull Twp.	111	223	113	105	108	85	47	60

	Under 5	5-14	15-24	25-34	35-44	45-54	55-64	65+
Saginaw County:								
Maple Grove Twp.	145	285	147	96	90	82	54	71
Clinton County:								
Bengal Twp.	62	125	65	57	42	48	26	43
Bingham Twp.	98	160	108	71	88	53	69	56
Duplain Twp.	112	132	153	104	123	128	68	107
Essex Twp.	83	154	104	73	72	77	48	70
Greenbush Twp.	89	165	84	80	74	67	58	58
Olive Twp.	122	181	81	93	100	62	62	55
Ovid Twp.	168	324	165	157	151	155	117	143
Riley Twp.	62	92	69	64	57	48	45	38
Victor Twp.	72	172	77	60	79	73	47	33
St. Johns City	332	607	340	332	337	297	197	261
Shiawassee-Clinton Area	4,703	8,349	4,918	4,430	4,572	3,755	2,806	3,316

Source: U.S. Bureau of the Census. U.S. Census of Population: 1960. Vol. 1. Characteristics of the Population. Part 24, Michigan, Tables 16, 26, and 27.

APPENDIX D

Age Distribution of the Female Population of Michigan, Shiawassee County, Maple Grove Township of Saginaw County, Clinton County: 1960

	AGE							
	Under 5	5-14	15-24	25-34	35-44	45-54	55-64	65+
Michigan	476,016	796,130	525,814	516,290	542,262	428,003	318,421	337,390
Shiawassee County:								
Antrim Twp.	47	121	61	41	59	40	26	42
Bennington Twp.	114	139	91	90	76	73	67	64
Burns Twp.	100	198	111	77	116	82	53	82
Caledonia Twp.	226	351	218	254	232	168	109	124
Corunna City	154	269	183	168	175	142	108	218
Durand City	210	328	222	200	207	169	139	205
Fairfield Twp.	52	89	63	46	51	38	37	37
Hazelton Twp.	107	204	136	95	102	82	62	73
Laingsburg City	78	120	73	67	56	52	37	66
Middlebury Twp.	54	102	69	64	55	63	38	46
New Haven Twp.	52	122	81	75	76	62	50	66
Owosso City	961	1,801	1,167	1,075	1,169	883	729	1,041
Owosso Twp.	197	351	200	211	181	148	128	109
Perry Twp.	213	366	227	209	168	139	108	162
Rush Twp.	88	123	83	82	78	61	51	64
Sciota Twp.	58	95	56	51	51	42	24	28
Shiawassee Twp.	120	214	143	134	125	105	76	91
Venice Twp.	128	227	114	144	113	97	51	78
Vernon Twp.	204	332	226	214	187	144	116	148
Woodhull Twp.	124	192	93	121	103	64	40	55

	Under 5	5-14	15-24	25-34	35-44	45-54	55-64	65+
Saginaw County:								
Maple Grove Twp.	147	232	165	102	86	75	55	50
Clinton County:								
Bengal Twp.	65	105	43	55	45	45	31	36
Bingham Twp.	101	139	102	83	83	46	56	43
Duplain Twp.	112	229	152	108	130	111	67	139
Essex Twp.	65	180	103	71	67	78	44	88
Greenbush Twp.	77	168	86	87	71	59	48	65
Olive Twp.	115	128	86	94	87	59	50	43
Ovid Twp.	164	289	201	173	152	142	117	177
Riley Twp.	78	93	84	67	46	62	39	38
Victor Twp.	90	146	101	67	86	51	46	36
St. Johns City	316	609	359	348	333	306	238	417
Shiawassee-Clinton Area	4,617	8,062	5,099	4,673	4,566	3,688	2,840	3,931

Source: U.S. Bureau of the Census. U.S. Census of Population: 1960. Vol. 1. Characteristics of the Population. Part 24, Michigan, Tables 16, 26, and 27.

APPENDIX E

Sex Composition of the Population of Michigan, Shiawassee County, Maple Grove Township of Saginaw County, Clinton County: 1960

	Number of		Percent of Total Population	
	Male	Female	Male	Female
Michigan	3,882,868	3,940,326	49.6	50.4
Shiawassee County:				
Antrim Twp.	453	437	50.9	49.1
Bennington Twp.	733	714	50.7	49.3
Burns Twp.	817	819	49.9	50.1
Caledonia Twp.	1,752	1,682	51.0	49.0
Corunna City	1,347	1,417	48.7	51.3
Durand City	1,632	1,680	49.3	50.7
Fairfield Twp.	424	413	50.7	49.3
Hazelton Twp.	885	861	50.7	49.3
Laingsburg City	508	549	48.1	51.9
Middlebury Twp.	552	491	52.9	47.1
New Haven Twp.	645	584	52.5	47.5
Owosso City	8,180	8,826	48.1	51.9
Owosso Twp.	1,464	1,525	49.0	51.0
Perry Twp.	1,578	1,592	49.8	50.2
Rush Twp.	675	630	51.7	48.3
Sciota Twp.	450	405	52.6	47.4
Shiawassee Twp.	1,043	1,008	50.9	49.1
Venice Twp.	941	952	49.7	50.3
Vernon Twp.	1,567	1,571	49.9	50.1
Woodhull Twp.	852	792	51.8	48.2

	Number of		Percent of Total Population	
	Male	Female	Male	Female
Saginaw County:				
Maple Grove Twp.	970	912	51.5	48.5
Clinton County:				
Bengal Twp.	468	425	52.4	47.6
Bingham Twp.	703	653	51.8	48.2
Duplain Twp.	1,027	1,048	49.5	50.5
Essex Twp.	681	696	49.5	50.5
Greenbush Twp.	675	661	50.5	49.5
Olive Twp.	756	662	53.3	46.7
Ovid Twp.	1,380	1,415	49.4	50.6
Riley Twp.	475	507	48.4	51.6
Victor Twp.	613	623	49.6	50.4
St. Johns City	2,703	2,926	48.0	52.0

Source: U.S. Bureau of the Census. U.S. Census of Population: 1960. Vol. 1. *Characteristics of the Population*. Part 24, Michigan, Tables 16, 25, and 27.

APPENDIX F

Marital Status of the Female Population 14 Years and Over in Michigan, Shiawassee County, Maple Grove Township of Saginaw County, Clinton County: 1960

	Single		Married		Widowed-Divorced	
	Number	Percent	Number	Percent	Number	Percent
Michigan	500,944	18.4	1,856,372	68.1	368,452	13.5
Shiawassee County:						
Antrim Twp.	52	18.6	207	74.2	20	7.2
Bennington Twp.	79	16.7	355	74.9	40	8.4
Burns Twp.	85	15.9	383	71.6	67	12.5
Caledonia Twp.	183	16.1	862	76.1	88	7.8
Corunna City	163	16.1	645	63.6	206	20.3
Durand City	159	13.7	822	70.6	183	15.7
Fairfield Twp.	51	18.5	197	71.4	28	10.1
Hazelton Twp.	116	20.3	404	70.9	50	8.8
Laingsburg City	61	16.9	235	65.1	65	18.0
Middlebury Twp.	53	15.5	257	75.4	31	9.1
New Haven Twp.	83	19.7	297	70.4	42	9.9
Owosso City	1,080	17.5	4,003	64.7	1,099	17.8
Owosso Twp.	139	13.9	759	76.1	100	10.0
Perry Twp.	180	17.2	729	69.6	138	13.2
Rush Twp.	66	15.5	326	76.3	35	8.2
Sciota Twp.	42	16.3	196	76.0	20	7.7
Shiawassee Twp.	107	15.5	493	71.5	90	13.0
Venice Twp.	90	14.6	464	75.6	60	9.8
Vernon Twp.	165	15.5	777	73.2	120	11.3
Woodhull Twp.	59	12.2	385	79.4	41	8.4

	Single		Married		Widowed-Divorced	
	Number	Percent	Number	Percent	Number	Percent
Saginaw County:						
Maple Grove Twp.	160	29.4	356	65.3	29	5.3
Clinton County:						
Bengal Twp.	45	17.2	188	71.7	29	11.1
Bingham Twp.	74	17.5	325	77.0	23	5.5
Duplain Twp.	121	16.7	504	69.4	101	13.9
Essex Twp.	84	18.1	319	68.6	62	13.3
Greenbush Twp.	68	15.9	313	73.3	46	10.8
Olive Twp.	63	14.8	335	78.6	28	6.6
Ovid Twp.	171	17.4	659	66.9	155	15.7
Riley Twp.	76	22.0	235	67.9	35	10.1
Victor Twp.	77	19.2	289	71.9	36	8.9
St. Johns City	339	16.5	1,338	65.2	375	18.3
Shiawassee-Clinton Area	4,291	16.9	17,657	69.7	3,442	13.4

APPENDIX G

Marital Status of the Male Population 14 Years and Over in Michigan, Shiawassee County, Maple Grove Township of Saginaw County, Clinton County: 1960

	Single		Married		Widowed-Divorced	
	Number	Percent	Number	Percent	Number	Percent
Michigan	626,942	23.9	1,845,155	70.4	150,704	5.7
Shiawassee County:						
Antrim Twp.	84	27.4	205	66.8	18	5.8
Bennington Twp.	115	23.3	356	72.1	23	4.6
Burns Twp.	143	25.8	382	70.0	29	5.2
Caledonia Twp.	237	20.7	861	75.3	46	4.0
Corunna City	200	21.5	644	69.3	85	9.2
Durand City	208	18.8	816	73.8	82	7.4
Fairfield Twp.	67	23.8	196	69.5	19	6.7
Hazelton Twp.	158	26.7	404	68.2	30	5.1
Laingsburg City	91	26.5	232	67.7	20	5.8
Middlebury Twp.	90	23.9	264	70.2	22	5.9
New Haven Twp.	118	27.5	296	69.0	15	3.5
Owosso City	1,146	21.0	3,968	72.6	348	6.4
Owosso Twp.	204	20.4	759	76.1	35	3.5
Perry Twp.	228	22.6	728	72.0	55	5.4
Rush Twp.	97	21.8	328	73.7	20	4.5
Sciota Twp.	85	28.1	194	64.0	24	7.9
Shiawassee Twp.	155	23.3	485	72.8	26	3.9
Venice Twp.	118	19.5	462	76.5	24	4.0
Vernon Twp.	236	22.4	765	72.7	52	4.9
Woodhull Twp.	125	23.2	378	70.3	35	6.5

	Single		Married		Widowed-Divorced	
	Number	Percent	Number	Percent	Number	Percent
Saginaw County:						
Maple Grove Twp.	186	32.9	356	63.0	23	4.1
Clinton County:						
Bengal Twp.	96	32.6	186	63.3	12	4.1
Bingham Twp.	116	25.3	320	69.7	23	5.0
Duplain Twp.	170	24.4	493	70.6	35	5.0
Essex Twp.	114	25.0	310	68.0	32	7.0
Greenbush Twp.	112	25.8	311	71.7	11	2.5
Olive Twp.	106	22.8	339	72.9	20	4.3
Ovid Twp.	196	21.6	653	71.8	60	6.6
Riley Twp.	79	24.0	233	70.8	17	5.2
Victor Twp.	87	22.4	288	74.2	13	3.4
St. Johns City	358	19.9	1,335	74.0	110	6.1
Shiawassee-Clinton Area	5,525	22.6	17,547	71.7	1,364	5.7

Source: U.S. Bureau of the Census. U.S. Census of Population: 1960. Vol. 1. Characteristics of the Population. Part 24, Michigan, Tables 18, 25, and 28.